affections upon the blood, intestinal neuroses, parasites of the intestinal canal, and diseases of the rectum. The two volumes of Dr. Hemmeter's work form a most valuable treatise on diseases of the intestines and we can speak in warm terms of praise of the publication.

LIBRARY TABLE.

Suggested Standards of Purity for Foods and Drugs. By C. G. Moor, M.A., F.I.C., F.C.S. London: Baillière, Tindall, and Cox. 1902. Pp. 260. Price 7*s.* 6*d.* net.—The adoption of definitions and standards in the Sale of Food and Drugs Act has undoubtedly done good and we welcome this effort to extend the system, however "tentative," as the author says, the figures indicating genuineness or the reverse may be. It is quite evident that a beginning must be made and some figures must be suggested in order that further investigation may be induced to decide whether a suggested standard is a reasonable and fair one. Mr. Moor has evidently been at some pains to collect a great number of statistics bearing upon the subject, and though not himself a pharmacist his experience as a public analyst has convinced him of the need of the possession of a code of standards both in regard to food and to drugs. He was, we believe, amongst the first to draw up a practical working scheme of drug standards and the book before us contains suggested figures or limits (as regards ash, extractives, or alkaloids, as the case may be) identical with those presented in a paper read before the conference of the Pharmaceutical Society two years ago. Since then the subject has been widely discussed and other authorities have approached the problem. It is, of course, desirable that the views of the analyst and pharmacist should as far as possible be made to harmonise. We may thus hope for a series of standards which will be rational and workable. According to recent developments there seems to be no reason why standards should not be shortly adopted, for we note that in many instances different authors arrive at the same conclusions in regard to the figures of limitation. Thus, many of the figures Mr. Moor suggested some time ago have been approved by more recent writers. We do not agree with Mr. Moor that "the distinction between genuine and artificial (? spurious) brandy is a matter of such difficulty that it is very questionable if it is possible to distinguish them by chemical means." If the analytical chemists of this country would turn their attention to the methods employed by French chemists in regard to the analyses of spirits, discrimination between genuine brandy and false would not only become possible but comparatively easy. But, of course, the usual fee accepted by a public analyst for analyses under the Sale of Food and Drugs Act would by no means compensate him for the trouble.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Punjab Inoculation Scheme.—The Institution of Bacteriological Laboratories.—The Census of Bengal.—A Theory of Plague Infection.

THERE are rumours from various quarters that the great inoculation scheme in the Punjab is likely to be seriously handicapped by the refusal of the Government to employ lady operators. There are a considerable number of influential men who absolutely refuse to have their womenfolk touched by a man and the very fact that lady operators are not provided gives a reasonable excuse for holding back from inoculation. The probability is that if they were available little objection would be raised to inoculation and even that male officers would be accepted for the purdah ladies. The purdah, like caste, is very elastic at times. Another difficulty has arisen in the deficiency of the supply of the plague prophylactic. It has been found necessary to limit the available serum to those districts where the inoculation programme is promising to be successful.

I am glad to hear that a central bacteriological laboratory is to be established at Bombay apart from the Plague Research Laboratory. This latter institution seems to be little more than a manufactory for the prophylactic serum, as little or nothing has been heard for some time of any original researches. Other laboratories for bacteriological work are to be established at Naini Tal and Wellington, these places having been selected for climatic reasons in preference to Lucknow and Secunderabad.

The Government resolution on the census report for Bengal shows the population to be over 78,000,000. Central Bengal has the greatest density of population—viz., 775 persons to the square mile. The general increase has been 5 per cent. since the last census. Patna and Saran, having been devastated by plague, show a decrease. Bengal is a land of villages—95 per cent. of the population live in villages. The number of Europeans has increased from 22,773 to 27,489 and that of Eurasians from 15,162 to 23,114. Half of the Europeans and about two-thirds of the Eurasians live in Calcutta. As there is a very large excess of European males over females the number of marriageable men is considerable, bachelors being largely in evidence. Amongst the natives everyone marries, the average age for the girls being about 11 years. The census brings out some curious facts about di-ease. Deaf-mutism, especially in association with cretinism and goitre, is most common in the Himalayan districts. Deaf-mutes are short-lived. Blindness is most common in the hot and dry districts. The great centre of leprosy is in the three western districts of Burdwan. There are no less than 74 languages spoken, but the chief is Bengali and the next Hindi.

Attempts have been made to prove that plague is largely if not generally contracted by inhalation of the virus through the medium of dust. No proof is afforded but some very doubtful inferences are drawn from certain facts recorded. To refute such a theory it is sufficient to point out the slight infectiousness of plague as shown by the freedom from contracting the disease of nurses and attendants and contacts and the slow progress of an outbreak in its early stages. The theory is a gratuitous assumption without a particle of practical evidence to support it. Bacilli are not found in dust and there is no experimental evidence to show that animals contract plague by inhaling presumably infected dust. Moreover, dust is so common in India that if it were infected the disease would spread like wildfire, but it does not. Plague is said to be prevalent in dark, damp places which are devoid of ventilation—the very places where dust is absent or, at any rate, when present is little scattered about.

Nov. 7th.

Looking Back.

FROM

THE LANCET, *SATURDAY, NOV. 27*, 1824.

FOREIGN DEPARTMENT.

Legal Medicine.—A man, named PATEIT, who was executed in the Low Countries, for murder, on the 27th of last August, made some important disclosures before his death. He declared among other things that the death of one of his uncles, who died on the 28th of May 1823, was produced by some poison which the wife had given him. Although the body had been interred sixteen months, it was taken up and examined. Notwithstanding the putrefaction of the whole body, the stomach was entirely free from it, and it was ascertained that it contained some poisonous substances. It is not the first time that such a case has occurred. But it is useful to record facts of this nature, to prove the degree of precision at which analytical chemistry has arrived. The preservation of the stomach, in the midst of general putrefaction, has nothing singular in it, although the Dutch journal which states the fact does not mention whether it was a mineral poison; for it is well known that chlorurets, for instance, preserve animal substances from all putrefaction.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 29, 1902.

The Case of Mrs. Penruddocke.

AT the recent sessions of the Old Bailey Mr. Justice BIGHAM was occupied for two days in trying a case which attracted considerable public attention. The accused person, ANNIE ELIZABETH PENRUDDOCKE, was the wife of a justice of the peace, a gentleman of good social position in Wiltshire, and the trial took place in London owing to the fear lest the strong feeling evinced against the prisoner in the county in which the acts were alleged to have taken place might deprive her of a fair trial there. Mrs. PENRUDDOCKE was indicted under the Prevention of Cruelty to Children Act, 1894, for ill-treating and neglecting one of her children, a little girl between six and seven years old, in a manner likely to cause her unnecessary suffering or injury to her health, and also for assaulting her. The trial ended in the conviction of Mrs. PENRUDDOCKE who was found guilty upon the counts that did not involve injury to the health of the child and was sentenced to pay a fine of £50. The question of the adequacy of this punishment has been made, and is still being made, the subject of discussion—some of it to the point and some of it volubly hysterical—but the medical bearings of the case are fairly definite.

The acts alleged against Mrs. PENRUDDOCKE divided themselves, owing to the line adopted by her defence, into two classes. Evidence was given for the prosecution that she had on several occasions chastised the child with some severity with a twig or whip and also that the child, unlike her small brothers and sisters, was insufficiently fed, particularly in respect of her dinner in the middle of the day, when she was frequently for days together allowed nothing but a potato or two and a little pudding. With regard to these points the evidence of Mrs. PENRUDDOCKE herself, of her husband, and of sundry relatives who had visited her house was to the effect that such treatment was adopted in order to correct a tendency to incontinence of urine on the part of the little girl to whom it was applied. The witnesses, however, further stated that Mrs. PENRUDDOCKE had on various occasions concealed mustard in a raisin and given it to the child, had put pepper in her mouth, had beaten or rubbed her skin with nettles, had put a dead wasp inside the neck of her dress, had pushed her off a mounting block outside the front door in such a way that she fell on the gravel path, had kicked her in the groin, had caused her to stand on a low-growing branch of a tree for two or three hours at a time and frequently in bad weather, and that she had on one occasion struck her and knocked her down in the presence of Mr. PENRUDDOCKE. It was further alleged that Mrs. PENRUDDOCKE had said to a governess who was warning the child against the danger of eating the berries of the deadly nightshade, "I wish she would eat them," and that on other occasions she had in a similar manner expressed herself as wishing that the child might injure herself or die. Further, the child, instead of going out with the other children, was made to run up and down by herself for so long as two hours at a time in the park, while in general her treatment at her mother's hands was in marked contrast to that meted out to her brothers and sisters. To these and all other allegations of acts and words, which could not by any ingenuity be made to figure as remedial measures taken in consequence of the child suffering from nocturnal enuresis, an absolute denial was given by the prisoner. In this she was supported by her husband and by other witnesses who declared themselves unaware of any difference made in the treatment of the child except in respect of the measures stated to have been taken to remedy incontinence of urine. In these circumstances the jury found themselves in the position of having to decide which side was telling the truth, and a verdict of "Not guilty" would have been tantamount to the expression of an opinion that two governesses and sundry indoor servants, a man and a boy employed outside the house, and the child herself had all leagued themselves together to ruin the prisoner.

The proceedings of the National Society for the Prevention of Cruelty to Children became of interest in this connexion. Servants have been known to say what is not true with regard to their employers, and during the trial it became important to prove whether the society had initiated its proceedings before or after a general notice of dismissal had been given to all their servants by Mr. and Mrs. PENRUDDOCKE. It was found that the society, which must be congratulated on the result of the trial, had had its attention called to the case many weeks before any steps were taken and that the notice to the servants had followed by some hours a letter written to Mr. WAUGH, the secretary of the society, by two of them. The jury, however, in distinguishing between the conflicting evidence before it no doubt placed reliance upon the testimony of Mr. HARCOURT COATES, medical officer of health of Salisbury, and surgeon to the City and County Police—a gentleman who could not by any reasonable exercise of the imagination be believed to be biased by any sinister influences. His evidence was to the effect that he found on the child (who had increased in weight by about six pounds since she was taken from her mother at the end of August) a number of weals, apparently the result of strokes administered at different dates; that she had bruises on her temple and on her cheek, a bruise on her groin, and traces of a rash consistent with the allegation that she had been stung with nettles. These conditions were entirely irreconcileable with the mother's description of the chastisement which she admitted having inflicted, and no suggestions made by the mother or any witness for the defence in any way accounted for the difference between what Mr. COATES found and what might have been expected had Mrs. PENRUDDOCKE'S evidence been true. In cross-examination Sir EDWARD CLARKE endeavoured to elicit from Mr. COATES assent to the proposition that the measures claimed to have been taken in consequence of the alleged incontinence of urine in the child might reasonably and properly have been adopted as curative or remedial treatment. Mr. COATES declined emphatically to countenance

any suggestion that to deprive a child of all meat at the midday meal was a suitable course to adopt to prevent her from nocturnal enuresis, nor would he allow himself to be entrapped into seeming to admit that a purely vegetable diet, combined with chastisement, was in any way advisable or necessary, or that CHAVASSE'S "Advice to a Mother" was a work of authority that should control his opinion. He preferred to say that it was a book with a large circulation, while Mr. MATHEWS, counsel for the prosecution, pointed out that the passages in it relied upon by Sir EDWARD CLARKE were contradicted or limited by others. The evidence of Mr. COATES, clearly and succinctly given, and being obviously that of a person entirely independent of any possible prejudice in the matter, was no doubt of considerable assistance to the jury, while a small fact not in dispute may have further aided it in disposing of the theory that the differences made in the diet of the child in question were benevolent and remedial rather than harsh and likely to prove injurious. The child was on one occasion seen to pick up near the house a piece of toast intended for a dog. This act was punished as a fault, but to most of us it will seem to point to the fact that a child of well-to-do parents was extraordinarily and undesirably hungry, being restricted to a diet which it was suggested by Mrs. PENRUDDOCKE'S counsel was nourishing if light.

We have gone into the issues raised in this case at some length on account of the attempt made, with considerable parade of confidence by Sir EDWARD CLARKE, to establish some sort of connexion between a portion of the acts of Mrs. PENRUDDOCKE and the kind of treatment which a medical man might advise in order to counteract an inconvenient but not alarming or unusual "infirmity," as the child's tendency to micturition during sleep was called throughout the trial. It must be pointed out firstly that no independent evidence of any such tendency amounting to an "infirmity" was ever given during the trial. The extent to which the child suffered remains to this moment in doubt. Secondly, and of this there can be no doubt, no treatment in order to diminish a tendency to nocturnal enuresis would either be recommended by a medical practitioner or adopted by any mother of average kindliness and intelligence that could possibly be mistaken for cruelty. And Mrs. PENRUDDOCKE was cruel. How far her cruelty was due to ignorance, how far to a loss of self-control, and how far to the condoning apathy of her husband: cannot be estimated, but her attempts at discipline and medical treatment, whatever their original object, degenerated into torture. Mrs. PENRUDDOCKE is no doubt heavily punished by the conviction, but the fine imposed by the judge can be of no consequence to her, while in all the circumstances of the case she is fortunate in having escaped the severer penalty of imprisonment which general opinion considers to be her due.

Underground Bakehouses.

BAKEHOUSES were first brought under the control of the State through the provisions of the Bakehouse Regulation Act, 1863, an Act which was concerned with the employment of persons under 18 years of age in bakehouses, with the cleanliness of these buildings, and with the proximity to them of sleeping-rooms. The entire administration of the Act was in the hands of the local sanitary authorities until it was repealed by the Factory and Workshop Act of 1878, when the control, sanitary and otherwise, of all bakehouses was given to the inspectors of factories. This arrangement continued for five years, when the Factory and Workshop Act, 1883, gave back to the sanitary authorities the sanitary inspection of retail bakehouses and invested the medical officer of health as regards these premises with the powers of an inspector of factories. In 1889 a Special Sanitary Commission of THE LANCET was instituted upon Bakeries and Breadmaking, when facts were adduced to justify the conclusion that it is impossible to build a really wholesome bakehouse underground.[1] Seven years later underground bakehouses were specifically dealt with for the first time in the Factory and Workshop Act, 1895, section 27 of which prohibited their occupation unless they were actually in use before Jan. 1st, 1896, while the Factory and Workshop Act, 1901, went a step further and enacted that no underground bakehouse should be used at all unless certified by the sanitary authority to be suitable as regards construction, lighting, ventilation, and in all other respects. The Government of the day was evidently convinced in 1895 that underground rooms were not suitable places to be used as bakehouses and it was anticipated by many of those interested in the question that entire abolition at a future date was contemplated. Nor is it at all likely that such action would have met with much opposition even from those whose pecuniary position would have suffered, for in 1894 the Master Bakers' Association of Manchester and Salford placed on record a resolution stating that it would "favourably consider any proposed Act of Parliament that would gradually close all underground bakehouses throughout the country provided the reasonable interests of the trade were safeguarded." Those who are disposed to blame the present Government for not taking advantage of the Act of 1901 to secure the complete closing of all underground bakehouses within a period of, say, ten years, must remember that during the past decade enormous strides have been made in methods of lighting and of ventilation. Not only has the electric light been brought to a high state of perfection, but by the aid of pavement lights, reflectors, and in other ways, daylight can now be brought into places where it was formerly impossible for it to penetrate, while adequate ventilation can to-day be obtained by mechanical contrivances acting quite independently of variations in temperature or of other fluctuating conditions.

As already stated the responsible duty of deciding which underground bakehouses shall be continued in use is cast primarily upon the sanitary authority, although upon this body refusing to grant a certificate of suitability the occupier of the premises may appeal to a court of summary jurisdiction, when the justices are empowered to certify in place of the sanitary authority. We most earnestly trust that neither the sanitary authority nor the justices will be induced to sanction the continuance of any of these premise

[1] THE LANCET, Nov. 30th, 1889, p. 1140.

unless a sufficiently high standard of suitability is secured, indeed there is no real reason why the conditions of such places should not be required to approximate to those of bakehouses above ground. Lest it should be considered that we are asking for the attainment of the impracticable, we may refer to a document which has been drawn up by the Incorporated Society of Medical Officers of Health for the guidance of those whose duty it will be to advise sanitary authorities or justices as to the desirability of permitting existing underground bakehouses to remain as such. The requirements suggested by the society have not been hastily decided upon. They were first of all drafted by Dr. JAMES NIVEN, medical officer of health of Manchester, who approached the question after having had considerable experience in the actual alteration of premises upon the lines which he laid down, and they were then discussed and re-discussed, altered, and amended by a large representative committee consisting of members of the society from all parts of the country. Finally they were considered at a full meeting of the society held on Nov. 21st and they may now be looked upon as expressing the opinions of the majority of British medical officers of health. These suggestions cannot fail to be of service to those for whom they are intended and in no sense can exception be taken to any of the requirements on the score of extravagance or because they are uncalled for or impossible of execution.

Briefly the proposals of the society are that all underground bakehouses shall be at least eight feet in height or eight feet six inches where the floor area exceeds 300 square feet. The walls and floors shall be constructed of impervious material and the ceilings shall be dust-proof, the lighting shall be such that a printed paper can ordinarily be read by daylight between the hours of 11 A.M. and 3 P.M., and the ventilation shall be such that 3000 cubic feet of clean air can be supplied hourly for each person employed, while the temperature of the room between the months of October and June shall not exceed 80° F. Other very proper requirements are that there shall be free access to sanitary conveniences and to conveniences for personal ablution and that there shall be provision for depositing wearing apparel elsewhere than in the bakehouse, while a most essential requirement to promote adequate cleansing of all parts of the bakehouse is the stipulation that all troughs, tables, or other furniture, standing on the floor shall be moveable and provided with castors. The difficulties attending the compiling of a document such as we have been discussing are well known to anyone who has ever been engaged in the task of compilation and we must congratulate the Incorporated Society of Medical Officers of Health upon the success which has attended their labours. We sincerely hope that no lower standard than that set by the society will be accepted by sanitary officials, by sanitary authorities, or by the justices when they are engaged in considering the fitness for occupation of an underground room as a bakehouse.

Lunacy and the Law.

IN his address on Lunacy and the Law, delivered recently before the Medico-Psychological Association, which appeared in THE LANCET of Nov. 22nd, p. 1369, Sir WILLIAM R. GOWERS made a vigorous and effective appeal on behalf of a class of cases of mental disorder which from every standpoint are difficult to deal with. We do not quite understand what Sir WILLIAM GOWERS means when he states that there is an "absolute divorce between the treatment of insanity and general medicine," but he is a neurologist of distinction who, although not regarding himself as a member of the medico-psychological body of practitioners, has every right to be listened to on a subject so closely allied to his own special sphere of work.

Sir WILLIAM GOWERS points out that, to secure its objects, the lunacy law has "decreed that all persons of unsound mind shall be deprived of liberty, shall be stigmatised as insane, and shall be placed under the complete control of the Commissioners in Lunacy. No distinction is made, no discrimination is permitted; all forms and degrees of mental unsoundness must so far be treated alike. ..... One principle, and only one, determined the incidence of the law—whether the care of the patient was paid for." Speaking in this connexion Sir WILLIAM GOWERS has some hard things to say of the resulting evils in incipient and transient cases, and in border-line cases as to the import of which any two authorities might possibly disagree. The few instances which he relates out of many serve to bring his conviction, and the occasion for its growth, into strong relief, if, indeed, they do not rather indicate that he has shown a tendency to overstate his case and to underestimate the position in which the law finds itself. The machinery of the lunacy law was never constructed to deal with simple and incipient deviations from sanity, or with transient delusions, or with "slight evanescent tendency to suicide"; and its forcible application in cases of this description can only be likened, so far as harmful and disastrous effects are concerned, to the forcible blow of a Nasmyth hammer upon a Barcelona nut. By the strong contrast Sir WILLIAM GOWERS no doubt scored a point. But many of those who listened to the address, and who have had large experience in the complications and difficulties of lunacy practice, could have adduced plenty of instances where delay in recognising the serious nature of the indications of mental unsoundness, where temporising and indecision, where, in the matter of certification, a fatal acquiescence in the pleadings and susceptibilities of the patient or his relatives, had led to results far more disastrous and irremediable than those referred to by Sir WILLIAM GOWERS as being liable to occur in the patients on whose behalf he has raised his influential voice. There is, too, the atmosphere of disreputability into which a person with means who becomes mentally weak or disordered may possibly drift, and which the law cannot allow itself to overlook—unworthy relatives, unworthy solicitors, unworthy medical men (alas), unworthy housekeepers and nurses, whose unscrupulousness has to be checkmated by anticipation. Surely the law has a right to determine and to have sufficient guarantees that the patient's money is spent properly and for his own best interests. Again, many patients, especially melancholiacs, find relief and benefit in the fact that on certification their own weak and vacillating wills are officially replaced by the guidance of wills that inspire confidence by their strength and robustness. No consideration of the operative effects of th lunacy law, or of the environments in which its provision

have to be carried out, can be regarded as complete which fails to give due weight to such points as these, as well as to the evils and risks that attend any informal or happy-go-lucky dealing with persons of unsound mind. The nature of these evils and risks are best understood by those who have made insanity and the insane their life-study and who are therefore most likely to act warily and to anticipate them. These are the evils and risks by which all sorts of social and domestic questions are complicated, and which the law has been striving, during the past half century of official and general experience and of pathological progress in the study of insanity, to provide against and to avert. In omitting to make specific reference to their existence Sir WILLIAM GOWERS scarcely did his subject justice; and his hosts, on his plea that he was not of their body, may have felt themselves justified in speaking to the subject-matters of the address upon which there was agreement and in not being adversely critical upon such an occasion.

Sir WILLIAM GOWERS denies that the enforcement of the law in the cases of mental unsoundness with which he is dealing is either necessary for the safety of the public or in the interests of the patient. "Taken altogether," he says, "the danger is very small in comparison with the danger and harm the law produces, directly and indirectly." We are not so clear on the point as is Sir WILLIAM GOWERS. What assurance can there be in a new case that the stability of the harmless nature of the symptoms will continue from day to day? And how can we tell that the class of cases which he considers now to be wrongly dealt with by law will remain a reasonably constant quantity and will not be extended into a more dangerous type? In any case, if the danger is very small this is no doubt largely due to the fact that the law has been, and is being, enforced. And can anyone doubt that if its provisions were materially relaxed the return to old-time scandals and abuses would sooner or later follow? The essential hardship to which Sir WILLIAM GOWERS is anxious to direct attention is "that the law compels the compulsory certification, however needless or harmful, as a condition for the skilled care which can only be obtained by payment." His proposed remedy by notification and limited certification is not likely to be accepted as meeting the official requirements of the case, for a certificate to the effect that Mr. X. "is a person of unsound mind and is *not* a proper person to be detained" involves a contradiction in terms in the majority of cases such as those to which Sir WILLIAM GOWERS refers: for in most of them the impossibility of any longer managing the individual in his ordinary domestic surroundings has been the very cause of his removal to the care of a stranger. What about the civil status and responsibilities of a person thus certificated? At whose instance and by what authority is this removal to be brought about if he does not go voluntarily? How many patients could be detained after they had perused such a document, and what different effect would the statement that they are of unsound mind have upon them in these circumstances as compared with the effect produced by certification under existing conditions? We much fear that theory and practice here will seldom be found to run on parallel lines.

In pointing out some of the difficulties that appear to us to stand in the way of the realisation of any such utopian scheme of legal "reform" as Sir WILLIAM GOWERS has unfolded, we have not the slightest wish to minimise the importance of looking into the question of what can be done to legitimise the domestic treatment of cases of mental unsoundness in its earlier or what may be termed its pre-certificate stages, so that the necessity for certification and transfer to an asylum may, if possible, be averted. Steps in this direction were actively taken some few years ago by a joint committee of the Medico-Psychological and British Medical Associations and the most experienced minds were able to make important suggestions and proposals for dealing with the treatment of incipient cases. These suggestions met with the approval of the legal authorities and if they had been made the subject of legal enactment they were calculated to place this class of patient on at least as satisfactory a footing in England as in Scotland. The primary question of the liberty of the subject teaches circumspection in dealing with individuals; and if medical men persist in treating irresponsible persons in a manner opposed to the sanction of official authority they do so with their eyes open. We are not prepared to say how long-suffering the public or the law ought to be on such a matter or to what extent medical men or others are to be allowed to interfere with personal freedom under the guise of duty, sympathy, or kindness, except on lines which it is for the law to determine and to indicate.

Annotations.

"Ne quid nimis."

KING EDWARD'S HOSPITAL FUND FOR LONDON.

A MEETING of the General Council of this Fund for the purpose of awarding grants to the hospitals was held at York House, St. James's, on Nov. 24th, H.R.H. the Prince of Wales being in the chair. The report showed that the sum available for distribution had been increased through the transfer to it by His Majesty the King of his subjects' coronation gift. The committee was thus able to advise the distribution for the year of £100,000, recommending that the money should be devoted towards (1) the opening of closed beds; (2) the wiping out of debt; (3) building improvements; and (4) general maintenance. The Prince of Wales moved the adoption of the report in an excellent speech in which he referred feelingly to the benefactions of His Majesty the King, Mr. Samuel Lewis, Lord Strathcona, Lord Mount-Stephen, the Maharaja of Sindhia, the Maharaja of Jaipur, and others, while he expressed his pleasure in learning that the Metropolitan Hospital Sunday Fund had been in no way injured by the great prosperity of the King's Fund. The motion was seconded by the Lord Mayor and adopted, the meeting terminating with a vote of thanks to the His Royal Higness for presiding, which was proposed by Lord Rothschild, seconded by Rev. J. Guinness Rogers, and carried unanimously.

PRISONERS AND SUSPENSE.

THE somewhat unusual and confused proceedings that have taken place before the Liverpool stipendiary magistrate in the case of the man charged with causing the death of Mr. Kensit have no doubt had their origin to

some extent in the desire to spare the prisoner the suspense of awaiting his trial for a long time. It is usual to try a prisoner for murder on a bill of indictment after committal by magistrates rather than on the finding of the coroner's jury. Mr. Kensit was injured at Birkenhead but died at Liverpool. Consequently the Liverpool coroner rightly conducted the inquest, which resulted in the accused being committed for trial to the Liverpool assizes. The crime was, however, committed, as has been said, at Birkenhead and the accused, if brought before the bench at Birkenhead, would have had to be committed for trial at Chester, Birkenhead being in Cheshire. The next Chester assizes do not take place until after Christmas, while apparently McKeever, who has now been committed by the Liverpool stipendiary magistrate, can be tried at Liverpool immediately. The proceedings have therefore been conducted strictly in the prisoner's interests, which in this country is always a satisfactory thing for the public to feel. The trial of the man Gardiner at Ipswich for the murder of Rose Harsent ended in the jury disagreeing and the prisoner is apparently to remain in custody at Ipswich until the next assizes, which will not take place before January, when he will be tried again. The hardship of keeping a man so long with such a charge hanging over him is too obvious to be dilated upon. The course adopted with regard to Gardiner is the usual one, but the question is not what is usual but what is just and humane, particularly when we reflect that in a case in which the jury disagrees ultimate acquittal may be the result of the second trial. Disagreements of juries are extremely inconvenient to all concerned and the immediate re-trial of Gardiner at Ipswich by the same judge would probably have dislocated the whole of the work of the circuit; at the same time, disagreements of juries are not very frequent and it would not be impossible to devise means by which after a brief interval the prisoner might be tried again instead of being kept in custody for months, which must be months of mental torture even to the least sensitive intelligence.

THE POSITION OF THE NAVAL MEDICAL OFFICER.

A CORRESPONDENT writes to us pointing out that while there may be many explanations of the difficulty experienced in obtaining men for the Royal Navy Medical Service, in his opinion the King's Regulations and Admiralty Instructions seem to make the position of a naval medical officer somewhat unpopular. "Article 186," he writes, "says: 'Officers of branches other than the military branch are not to assume any military command whatsoever either afloat or on shore.' Article 190, section 2, says: 'Men and boys holding ratings printed in italics (in column 1, Appendix VI.) are not to assume military command except so far as may be necessary to enable them to carry on the duties appertaining to their particular ratings.' Among the positions mentioned in italics in this column of the appendix are those of sick-berth attendant, ship's cook, and musician. It seems strange that a naval medical officer is not allowed 'military command' to the same extent as his own sick-berth attendant or the ship's cook." Again, he considers that Articles 136, 187, 188, and 697 are capable of improvement as far as medical officers are concerned. Recently revised they run as follows: "136. At courts of inquiry, surveys, and other similar assemblages of officers, the officer who in virtue of his office would under these regulations take the military command is in all cases to preside, irrespective of the relative rank of the other members." "187. Notwithstanding the relative rank and authority conferred by these regulations on officers of branches other than the military branch they are to be subject to the authority of the officers of the military branch in all such details and matters as relate to the service on which they are employed, the duties of the fleet and the discipline and interior economy of ships, and in no case shall they be deemed to be superior in rank to, or take precedence of, the officer appointed to command the ship or establishment in which they are employed or the officer or other person on whom the command of such ship or establishment may properly devolve in the absence of the officer appointed to the command thereof." "188. If two officers not of the military branch are in the presence of an officer of the military branch under whose command the senior of the two is serving, the junior, whatever his rank and standing may be, cannot take precedence of the military branch officer." "697. Each mess is to be regulated by a mess committee of three or four members of which the senior member of the military branch shall be the president, the other members of the committee being elected." His comment upon these articles is that "the 'other person' alluded to in Article 187 is frequently in small ships a warrant officer; that there is nothing in the regulations to prevent a naval medical officer under exceptional circumstances being forced to regard a boy of 15 or an ordinary seaman as his commander whom he must obey, and to whom he must yield any place of honour, and that as regards the position of mess president and of president at courts of inquiry, the senior member of the military branch present is very often junior both in rank and years to the senior member of some non-military branch." We think it right to publish our correspondent's criticisms of the existing conditions under which the modern medical officer serves, as all such matters, if ventilated, tend either to be remedied or to be recognised as to some extent inevitable, and not, therefore, legitimate topics of grievance. In this case the quotations from the King's Regulations and Admiralty Instructions, though accurate, read very much worse than they would if they had been quoted in their entirety. Article 186, for example, goes on to say: "But under the captain ..... they shall have all necessary authority within their own department." Article 136 is correctly quoted and is undoubtedly a point for reform. As regards medical surveys, the Royal Army Medical Corps does its own work and conducts the survey without the presidency of a combatant officer; this is an alteration which is much desired by the medical officers of the navy. With regard to Articles 186, 187, and 697, it is true that there is nothing in the regulations to prevent an ordinary seaman giving orders to a fleet surgeon or an officer of higher rank *if* he happened to be in a boat "commanded" by an ordinary seaman; but this would apply to *all* officers who did not belong to the military branch and not to the medical only. The situation sounds appalling or comic (as it may be viewed) but practically it could never occur. At any rate, we have never heard of such a thing taking place and we wonder if our correspondent can produce an instance.

THE DISTRIBUTION OF PLAGUE.

As regards the Mauritius a telegram from the governor received at the Colonial Office on Nov. 21st states that for the week ending Nov. 20th there were 30 cases of plague with 21 deaths from the disease. As regards the Cape Colony the medical officer of health of the colony states that no case of plague in any human being has occurred since Sept. 23rd. This case was at Port Elizabeth and the patient died on Sept. 25th. Plague-infected rats were found dead at Port Elizabeth during the weeks ending Oct. 25th and Nov. 1st. The Local Government Board for Scotland has reprinted and issued as a circular to the various medical officers of health the article which appeared in THE LANCET of Oct. 11th (p. 984) entitled, "Rats

and Plague" by Dr. G. J. Blackmore. Our New York correspondent states that plague still exists in San Francisco despite assertions to the contrary. The *New York Herald* of Oct. 31st published the report of an interview with Dr. J. M. Williamson, president of the San Francisco Health Board. It appears that there have been 65 fatal cases among white persons in the city within the past two years and a half. The total number of cases in San Francisco since Dec. 28th last has been 57 and of these 28 have proved fatal. The remedy recommended by Dr. Williamson is as follows: "China Town," he says, "as it is at present cannot be rendered sanitary except by total obliteration. It should be depopulated, its buildings levelled by fire, and its tunnels and cellars laid bare. Its occupants should be colonised on some distant portion of the peninsula, where every building should be constructed under strict municipal regulation. In this way, and no other, will there be safety from the invasion and propagation of oriental disease."

RESUSCITATION IN SYNCOPE DUE TO ANÆSTHETICS AND IN OTHER CONDITIONS BY RHYTHMICAL COMPRESSION OF THE HEART.

IN 1874 Schiff showed that dogs apparently killed by chloroform might be resuscitated by rhythmical compression of the exposed heart. In 1899 Prus independently discovered that dogs apparently killed by asphyxia, chloroform intoxication, or electricity might be resuscitated in this manner. Opportunity has occurred of applying this method to man in a case of suicide. Though two hours had elapsed since death a few flickering contractions of the heart were obtained. In the *Hospitalstidende*, 1900, p. 1217, an extraordinary and unique case was published, in which, after stoppage of respiration and pulse during the administration of chloroform, and failure of ordinary methods of resuscitation, the heart was exposed, rhythmic compression was performed, and after a short time spontaneous contractions were evoked. Perflation of the lungs was simultaneously performed. The cardiac movements gradually increased and after half an hour feeble spontaneous respiration began. After three hours the patient was breathing deeply, then respiration again ceased. Artificial respiration was maintained for eight hours until the heart ceased to beat. A complete account of this case has been published.[1] The *Revue de Chirurgie* for October contains an interesting review of the whole subject by Dr. Maurice Boureau. He finds that rhythmical compression of the heart has been employed in 12 cases never with final success. M. Tuffier[2] has recorded the following case. He happened to be near when a man died suddenly on the fifth day of an attack of appendicitis, apparently from embolism. Not more than two or three minutes had elapsed when he examined the patient. The body was already flaccid, the pupils were dilated, respiration had stopped, and the heart showed no signs of movement. Having tried all ordinary methods suitable in such a case M. Tuffier rapidly made an incision in the third left intercostal space and pressing on the pericardium with the index finger rhythmically compressed the ventricular region for one or two minutes. The heart first undulated irregularly and then contracted definitely. The pulse reappeared, deep respirations took place, the eyes opened, and the pupils contracted. The wound was covered with an antiseptic pad. The pulse failed again and the circulation was again established by the same means for some minutes, but it then ceased in spite of all efforts. Until the present year surgeons have reached the heart by resecting the fifth and sixth ribs and opening both pleura and pericardium, thus necessarily creating pneumothorax. But in 1902 Porrier, following a method recommended by Mauclaire,[3] adopted the *voie diaphragmatique*, thus avoiding the production of pneumothorax. An incision four or five centimetres long is made through the diaphragm. It begins at the middle of the concavity of the diaphragm and is directed a little obliquely from right to left towards, but not as far as, the apex of the heart. In two cases this method has been employed without success. Dr. Boureau thinks that Silvester's method of artificial respiration and Laborde's method of rhythmical traction of the tongue should always be employed in the first instance in cases of syncope from chloroform. If after 10 minutes respiration has not recommenced he recommends the surgeon as a last resource to perform rhythmical compression of the heart. Since the publication of Dr. Boureau's paper the first successful case of resuscitation by rhythmical compression of the heart has been recorded.[4] At the last meeting of the Society of Anæsthetists Dr. E. A. Starling reported the case of a man, aged 65 years, whose appendix vermiformis was removed under nitrous oxide and ether. During the trimming of the stump both pulse and respiration stopped together. Artificial respiration and traction on the tongue were performed without success. Then the surgeon, Mr. W. Arbuthnot Lane, introduced his hand through the abdominal incision and felt the motionless heart through the diaphragm. He gave it a squeeze or two and felt it re-start beating, though no radial pulse was discernible. As voluntary respiration was still suspended artificial respiration was continued and other restorative measures were adopted. Artificial respiration had to be continued for about 12 minutes when natural respiration recommenced with a long, sighing respiration, while at the same time the pulse became perceptible. The operation was completed without any more anæsthetic and a good convalescence followed, though there was some diaphragmatic tenderness. It should be noted that the method adopted by Dr. Starling and Mr. Lane, whom we congratulate, differs from those previously employed. Instead of incising the diaphragm as recommended by Mauclaire he adopted the simpler method of compressing the heart through the diaphragm. The previous results of manual compression of the heart are not very encouraging, but Mr. Lane's success by such a very simple and easy procedure justifies us in saying that if during laparotomy the patient's heart stops the case should never be abandoned as hopeless until manual compression of the heart through the diaphragm has been performed.

[1] THE LANCET, April 13th, 1901, p. 1092.
[2] Bulletin et Mémoire de la Société de Chirurgie, 1898, p. 937.

THE WEIGHT OF THE BRAIN IN MAN.

AN interesting article by Dr. F. Marchand appears in the *Journal of the Scientific Society of Saxony* (vol. xxvii., p. 389), of which an abstract is made in the *Centralblatt für die Physiologie* (1892, p. 294). Dr. Marchand has weighed the brain in 1234 cases, usually immediately after its removal from the body and whilst still inclosed in the dura mater. The subjects were Hessians and the results which he obtained may be briefly stated as follows. The mean weight of the brain in the male sex between the ages of 15 and 80 years was 1400 grammes and in females it was 1275 grammes. The brain in 84 per cent. of all adult males between the ages of 15 and 80 years weighed between 1250 and 1550 grammes. In about 50 per cent. it weighed from 1300 to 1450 grammes. In about 30 per cent. it was over 1450 grammes and in only 20 per cent. under 1300 grammes. In women, 91 per cent. of all the adults had a brain weight between 1100 and 1450 grammes, 35 per cent. weighed from 1200 to 1350 grammes, 20 per cent. over

[3] Gazette des Hôpitaux, 1901, No. 145.
[4] THE LANCET, Nov. 22nd, 1902, p. 1397.

1350 grammes, and 25 per cent. below 1200 grammes. Dr. Marchand found that the brain weight at birth doubled in the course of the first nine months of life and trebled before the expiration of the third year. After this date the increase was much slower, and slower in females than in males. Its definite or ultimate weight was reached in males at about the nineteenth or twentieth year, and in females from the sixteenth to the eighteenth year. The diminution in the mean weight of the brain which is due to the supervention of senile atrophy occurs in males in the course of the eighth decade and in females of the seventh, though without doubt great individual differences are observable. The increase of the mean weight of the brain in childhood follows the growth of the body generally till it reaches a length of 70 centimetres independently of age and sex, but from that point onwards it becomes irregular and is always smaller in females. In adults there is no constant relation between body weight and brain weight. Still, the mean weight of the brain in males of short stature (from 150 to 160 centimetres) is rather less than those of average height and the same holds good for women under 145 centimetres. The smaller size of the brain in women is not dependent on the lower stature, for the mean weight of the brain in women is without exception smaller than that of males of equal height. The conclusions of Dr. Marchand are drawn from data which are contained in numerous statistical tables.

THE MEDICAL MAN, THE CORONER, AND THE PATHOLOGIST.

THE two children of a caravan dweller in Battersea, a little boy, aged two years, and a baby girl, aged ten months, recently died after eating mussels. The little girl was taken to the surgery of Mr. J. A. Bouck of Battersea Park-road, who saw that she was in a dying condition. He visited the caravan and there saw the boy who was obviously suffering from enteritis. The little girl died on the evening of the day when she was brought to Mr. Bouck and the boy died two days later. Mr. John Troutbeck held an inquest on the bodies and appears to have instructed Mr. Bouck to make a post-mortem examination of the boy only, the post-mortem examination of the girl being made by Dr. Ludwig Freyberger who is described in a report of the inquest in the *Clapham Mercury*, which has been forwarded to us, as pathologist to the London County Council. The *Times* in a report of an inquest held in Lambeth on Nov. 18th describes Dr. Freyberger, who was again making a post-mortem examination for Mr. Troutbeck, in similar terms. Dr. Freyberger omits this appointment in the Medical Directory and we should like to know the circumstances in which he received it and the salary attached to the post. Was this post obtained in open competition? What exactly are its duties? Mr. Bouck, at the end of his evidence before the coroner, which clearly showed the children to have died from enteritis following upon an extremely unsuitable meal, asked Mr. Troutbeck why the post-mortem examination of the little baby which he had attended had been made by Dr. Freyberger. We ask exactly the same question, although Mr. Troutbeck appears to have resented Mr. Bouck's natural curiosity, saying, according to the account of the inquest in the *Clapham Mercury*, that "it is necessary to remind medical gentlemen that coroners hold the inquests." It is necessary to remind one coroner, that is to say, Mr. Troutbeck, that at a large proportion of coroners' inquests the medical evidence is the most important evidence tendered, and that a coroner who does not take care to obtain his medical evidence from the obvious source—viz., the medical man attending the patient—is running a risk of impeding the course of justice. Mr. Bouck saw the baby while she was alive, recognised the symptoms, and attended both children until their death. We consider that it was unfortunate to invite Dr. Freyberger's assistance and that Dr. Freyberger has been placed in a distasteful position—the position of taking fees for work which a professional brother was in a fitter position to discharge than he was himself. We recommend the whole matter to the attention of the Coroners' Society.

THE PLAGUE IN BOMBAY.

THE *Times of India* of Oct. 25th contains an appeal from Mr. J. A. Turner, the executive health officer of Bombay, to the people of that city to do their best to aid the municipal authorities in their efforts to cope with the cold-weather epidemic of plague by reporting all cases of sickness and having prompt recourse to medical aid. After adverting to the use of Haffkine's prophylactic inoculation and other matters the health officer thinks that advice to the people should take the following directions:—

1. The disease is chiefly caused by the direct inoculation—through the skin, sores, cuts, bites of parasites, abrasions of the skin when exposed to the infective material—and should be guarded against. Sleeping in a room with an infected person or in a room in which a case has occurred is dangerous.
2. Personal cleanliness is a great safeguard.
3. All earth and mud floors should be taken up and removed and replaced by fresh moorum and covered with cement, stone, or wood.
4. Deposits of foul refuse and accumulation of water around houses should be removed.
5. Rats may be the cause of spreading the disease and every attempt should be made to destroy them.
6. The room should be kept clean and well-ventilated and overcrowding should be avoided.
7. Advice should be sought early.
8. Infected houses should be evacuated.

THE HÆMATOLOGY OF BURNS.

MORBID hæmatology is only beginning to be extensively and systematically studied and its clinical value has only recently been appreciated. In the *Boston Medical and Surgical Journal* of Oct. 30th Dr. E. A. Locke has published the results of a study of the blood in severe burns. His paper is important because it contains the first accurate records of clinical examination of the blood in burns. As early as 1823 Cumin of Glasgow called attention to the congestion of the internal organs and effusion in serous cavities in fatal cases of burns. In 1865 Schultze pointed out the changes in the corpuscles produced by heat in animal blood. Since then a good deal of experimental work has been done. Bardeen[1] has recently summed up the principal changes in the blood thus: (1) There is a slight increase of specific gravity; (2) the erythrocytes are morphologically injured when subjected to a temperature of 52° C.; they break up into fragments which eventually lose their hæmoglobin; (3) there is leucocytosis which is chiefly polymorphonuclear; and (4) toxins are found in the plasma. Dr. Locke's study is based on ten cases of severe burns admitted into the Massachusetts General Hospital. In every case the blood was taken from an uninjured part. The blood obtained by puncture flowed very sluggishly and was of a dark purple colour. As the result of a very careful series of examinations of the blood made at intervals after the burns Dr. Locke has established the following changes: (1) An immediate increase in the number of erythrocytes, amounting in non-fatal cases in a few hours to from 1,000,000 to 2,000,000 per cubic millimetre and in fatal cases to from 2,000,000 to 4,000,000; (2) a rapidly increasing leucocytosis, amounting in non-fatal cases to 30,000 or 40,000 per cubic millimetre, and in fatal cases usually to more than 50,000; (3) slight morphological changes in the erythrocytes; (4) the percentage of neutrophiles is somewhat above normal but not so much as in ordinary inflammatory leucocytosis; (5) a considerable

[1] Johns Hopkins Hospital Reports, 1898-99, vii.

destruction of leucocytes, especially in severe burns; (6) myelocytes may be present in small numbers in severe cases; and (7) marked increase in the number of blood plates usually occurs. In nearly all the specimens evidence of degeneration of leucocytes was found. In one fatal case nearly 50 per cent. of the leucocytes were degenerated. Their appearance was very variable. The cell was often reduced to a mass of faintly staining irregular protoplasm with pale nucleus and a few scattered neutrophile granules. In four non-fatal cases the highest erythrocyte count was 7,266,000 per cubic millimetre, while of six fatal cases the count in five reached 9,000,000. Tapheiner found that the loss of blood plasma in those severely burned varies from 2 to 3 per cent., hence it does not account for the enormous increase of erythrocytes. A more important factor is probably the venous stasis, which is due to dilatation of the peripheral vessels and weakness of the heart.

A CREMATORIUM FOR LONDON.

A NUMBER of ladies and gentlemen were present on the afternoon of Nov. 22nd at the opening of a crematorium which has been constructed by the London Cremation Company, Limited, at Golder's green, on the Finchley-road, about two and a half miles from the Swiss Cottage. The site selected lies at present in open country and sufficient land has been acquired by the company to allow ornamental planting and the sale to relatives of plots wherein incinerated remains may be buried. The buildings consist of a chapel of ample size, built, like the rest of the buildings, of red brick, with a floor of black and white marble and a marble archway at the side near the upper end through which, on the opening of iron doors, the coffin will be passed into the crematorium. In the crematorium there is at present provision for the separate but simultaneous burning of two bodies. Accommodation is provided close at hand for the superintendent, furnace men, and other necessary attendants; there are waiting-rooms for the use of mourners, and a columbarium is in course of construction in which freehold niches may be acquired for the reception of cinerary urns. It is not necessary to describe in detail the construction and method of working the furnaces; they are, however, completely efficient for the performance of their object—namely, the rapid incineration of dead bodies, without any effluvium or other undesirable concomitant being observed by those in the neighbourhood of the crematorium, and it is proposed to offer them for use on and after Dec. 15th. Not the least interesting portion of the opening ceremony, at which Mr. Martin Ridley Smith, chairman of the company, occupied the chair, consisted in the detailed history of the cremation movement in England delivered by Sir Henry Thompson, one of its two surviving originators. Tracing it from its origin in "the seventies" to its subsequent check through the intimation given by the Home Secretary upon the building of the Woking Crematorium, he referred to the charge of Sir FitzJames Stephen to the grand jury at Cardiff Assizes in 1884, delivered in the case of the "Druid" Price who had endeavoured to cremate the body of his child. This delivery of an able and painstaking judge, followed by a summing up to a petty jury in similar terms, released the promoters of cremation from the ban imposed by the Home Secretary, and now by the Act of Parliament to which Royal assent was given in last August cremation has received formal statutory sanction as a means for the disposal of human remains. Sir Henry Thompson referred with satisfaction to the fact that official regulations will be drawn up under the Act to govern the certification of bodies to be burned. These will perhaps be the initial stage in the reforming of the practice of certification and registration generally and where death has taken place in the imposing of new precautions that may safeguard the living while they will not injure the deceased or offend survivors. We may add that the board of the London Cremation Company is mainly composed of members of the council of the Cremation Society with Mr. J. C. Swinburne Hanham as managing director, and that its object is to promote a sanitary method of disposing of human remains combined with enough of a commercial element in its management to attract the investment of capital. It has provided this within driving distance from the heart of London, while everything has been done that was desirable in order to insure the last offices for the dead being performed in attractive and non-repulsive surroundings and in order to meet the sentimental and religious or *quasi*-religious objections which militate against the introduction of a sanitary reform.

THE VERDICT OF "SUICIDE WHILE INSANE."

AT an inquest held recently upon the body of a medical man in London evidence was given that he had purchased prussic acid, that the bottle containing it had been found nearly empty by his bedside, and that he had died from prussic acid poisoning. There was also evidence that there was nothing in his circumstances or his life to cause him distress and there was no evidence of any motive that might be said to have induced him to take his life. The jury found a verdict of "suicide" and a discussion took place between them and the coroner as to whether the usual addition should be made to the effect that the deceased at the time of committing the act was of unsound mind, the coroner suggesting that over-study might be considered as a possible cause of mental derangement, while the fact of suicide might be treated as evidence that mental derangement existed. The jury, however, refused to accept these suggestions and the coroner in recording their verdict made the observation that it did not now involve the consequences that used to follow a finding of *felo de se*. The penalties attaching to self-murder constituted in bygone days the effort of the law to punish one whose act had withdrawn his person from its reach. In the words of Blackstone the suicide is guilty of a double offence; one spiritual in evading the prerogative of the Almighty, the other temporal against the King who has an interest in the preservation of all his subjects. The law in Blackstone's day, being unable to punish the dead man, used to act upon what he left behind, his reputation and fortune—on the former by an ignominious burial in the highway with a stake driven through his body, on the latter by forfeiture of all his goods and chattels to the King, hoping that his care for either his own reputation or the welfare of his family would be some motive to restrain him from so desperate and wicked an act. More recently forfeiture for felony has been abolished (in 1870) and since 1882 burial with ignominy has been forbidden and the coroner has now to give directions for the interment of the remains in a churchyard or other burial ground without any right to the celebration of a burial service but not necessarily without the celebration of any such service. The returning of verdicts of "suicide while of unsound mind" without any evidence of such unsoundness is no doubt to a large extent a survival from the days of post-mortem penalties, while to some extent it has its motive still in the desire to shield the dead against the charge of impiety alluded to above. Blackstone protests against the practice and against any such doctrine as that the act of suicide is itself evidence of insanity. In a very large number of cases the person who kills himself is not in a condition of mind to estimate or to control his action, but at present it often occurs that a jury finds a verdict that a person was of unsound mind when he committed a certain act upon no other ground than because he committed the act in question or

upon evidence upon which no such verdict would be returned in any other case than that of suicide. This perhaps salves the feelings of surviving relatives by formally acquitting the deceased upon the charge of self-murder, but at the same time to some extent it constitutes a record of insanity in a family founded upon altogether insufficient evidence. No reasonable person would regard such a verdict as conclusive, but whatever weight it carries for the one purpose it must carry for the other. It is easy, at all events, to understand that intelligent and conscientious men upon a jury who have sworn to find a verdict according to the evidence may object to doing so as to a matter of which there is no evidence at all. It may also be suggested that a verdict to the effect that the deceased caused his own death but that the condition of his mind when he did it had not been proved to the jury's satisfaction would inflict no unnecessary pain upon survivors without asserting as a fact that for which there is no foundation.

THAMES ANGLERS AND THE RICHMOND WATER-SUPPLY.

AN esteemed correspondent has again written to us in regard to the possible pollution of that part of the Richmond municipal water-supply which is derived from Petersham Meadows, and he suggests that the anglers who occasionally assemble there in great numbers are a source of real danger to the community. We have already drawn attention to the question,[1] and it may be remembered that angling competitions are occasionally held on Sundays on the banks of the Thames between Isleworth Ferry and Teddington Lock. The Petersham Meadows adjoin the towing-path for some part of this distance and on this portion of the river frontage there is an entire lack of public conveniences. Two angling competitions have lately been held. Of these the first took place on Sunday, Oct. 26th, and the second on Nov. 23rd. We learn some particulars as to the way in which the latter of these competitions was conducted from a printed circular which is issued by a gentleman who encourages the sport by giving silver medals and a number of valuable prizes and who is responsible for the rules by which it was regulated. A ticket was obtained on the payment of 1*s.* and on their arrival at Richmond the competitors had to get their tickets stamped at a certain hotel which is named. The signal to start was given from a point outside the hotel and no competitor was allowed to leave until this was done. There was a regulation that competitors "must walk from the hotel to the water," and the use of cycles and motors for the journey was specifically barred. Our correspondent tells us that the angling usually commences at 10 A.M. and the signal to cease fishing is given at 4.30 P.M. In a competition of this kind time is, of course, an important element. The keen angler does not wish to leave his rod. Should he be stationed opposite the Petersham Meadows from 10 to 4 even the calls of nature will not readily lead him far from his post. Dr. Klein, we believe, has found bacilli of intestinal origin in the water derived from the Petersham meadows and this discovery is not cause for surprise under the present conditions, which, indeed, appear to insure such contamination. Our enthusiastic Richmond correspondent suggests that the "gathering of anglers" ought to be stopped. This proposition does not appear to be one which could possibly be carried out, even if it were advisable. River angling is an absorbing and evidently a popular sport, and a fine autumn day spent on the banks of the Thames is as excellent and inexpensive outing for a hard-worked citizen. The Richmond corporation has ample means to check any possible nuisance which an angling competition may be the indirect means of causing. The question is one for the police. Should the sanitary conveniences provided by the borough be insufficient in number it is possible that the fact may have escaped the notice of the corporation and the question will doubtless receive due consideration now that we call attention to it.

[1] THE LANCET, April 17th, 1901.

WE congratulate Mr. J. W. Ayres of Liverpool, who was convicted in the spring of this year of manslaughter on very inconclusive evidence, upon being allowed by the General Medical Council to remain upon the Register. The Council evidently considered that the sentence upon Mr. Ayres amounted to a miscarriage of justice, and we, having the whole sad story in our minds, respect the wise leniency of their decision.

THE twenty-fourth annual dinner of past and present students of the Leeds School of Medicine will be held at the Queen's Hotel, Leeds, on Thursday, Dec. 4th, at 7 P.M. The President will be Mr. H. Secker Walker. Tickets, price 7*s.* 6*d.*, can be obtained from the honorary secretaries, Mr. E. C. Hood and Mr. P. K. Steele, Leeds Medical School.

DR. ROBERT KOCH, the eminent bacteriologist and discoverer of the tubercle bacillus, has presented to the committee of management of the Mount Vernon Hospital for Consumption a portrait of himself, to be placed in the library of the new central out-patients' department, Fitzroy-square, London, W.

AT the meeting of the Harveian Society to be held on Dec. 4th a discussion is to be opened by Mr. C. B. Lockwood on the Surgery of Acute Appendicitis. The discussion is open to all medical men.

THE Irish Medical Schools and Graduates' Association entertained Lord Roberts and a number of guests at dinner on Nov. 26th. The Arnott Memorial Medal was awarded to Captain T. J. Crean, V.C., R.A.M.C.

VIRCHOW MEMORIAL COMMITTEE.

THE inaugural meeting of the Virchow Memorial Committee was held on Nov. 21st at the Royal Medical and Chirurgical Society, 20, Hanover-square, London, W., under the chairmanship of the Right Hon. Lord LISTER, P.C., O.M., F.R.S. There were present amongst others Sir William H. Broadbent, Bart., Sir Dyce Duckworth, Sir Thomas Smith, Bart., Sir Hermann Weber, Sir Felix Semon, Mr. A. Willett, Dr. A. C. Haddon, Professor G. Sims Woodhead, Dr. C. Theodore Williams, Professor D. J. Hamilton, Professor C. S. Sherrington, Dr. E. B. Tylor, Mr. Wakley, Mr. Howard Marsh, Mr. S. G. Shattock, Dr. F. W. Pavy, Mr. S. Paget, and Mr. Shirley F. Murphy.

The proceedings commenced by Lord LISTER making some introductory remarks. He said that on the death of Professor Virchow the committee formed under the chairmanship of Professor Waldeyer, which had promoted the celebration of his eightieth birthday, reconstituted itself and resolved that it would take steps to erect a monument to Virchow in Berlin. Sir Felix Semon, who was a member of that committee, came to him (Lord Lister), at the request of Professor Waldeyer, and asked whether he thought it a suitable thing, so far as he could judge, that in this country they should join in that movement; if so, whether he (Lord Lister) would be chairman of the committee that might be formed for that purpose. He (Lord Lister) confessed that as a rule he thought that monuments to the departed should be erected if at all by the nations that gave them birth. There were, however, exceptions to that rule as to other rules. Pasteur was such an exceptional instance; he was an exceedingly great man and his beneficent work had benefited all mankind and it was fitting that other nations as

well as the French should join in a memorial of their admiration of him. And so it was with Virchow. He was a gigantic genius, and while his pathological work had benefited the whole of medicine throughout the world, he at the same time had rendered distinguished services in other departments of science and of utilitarian objects. He (Lord Lister) therefore very gladly acceded to the request of Sir Felix Semon. The first thing to be done was to constitute a general committee, and Sir Felix Semon had issued to a considerable number of persons interested in the sciences and objects which Virchow had at heart a statement requesting their adhesion to the movement. Lord Lister then called upon Sir Felix Semon to read the names of nearly 100 gentlemen who had expressed their wish to be on the committee and he said that he thought they would agree with him that a more representative list could hardly be desired.

Sir FELIX SEMON then read the following list of names: *Chairman:* The Right Hon. the Lord Lister, P.C., O.M., F.R.S. *Honorary Treasurer:* The Right Hon. the Lord Avebury, P.C., D.C.L., LL.D., F.R.S. *Honorary Secretary:* Sir Felix Semon, C.V.O., M.D., F.R.C.P., physician-extraordinary to H.M. the King.

List of the committee: The President of the Royal Society (Sir William Huggins, O.M., K.C.B., D.C.L., LL.D., D.Sc.); the President of the British Association for the Advancement of Science (Professor James Dewar, M.A., D.Sc., F.R.S., F.R.S.); the President of the Royal College of Physicians (Sir William S. Church, Bart., K.C.B.); the President of the Royal College of Surgeons (Sir Henry Howse, M.S.); the President of the General Medical Council (Sir William Turner, K.C.B., F.R.S.); the President of the British Medical Association (Walter Whitehead, F.R.C.S., F.R.S. Edin.); the Director-General of the Army Medical Service (Sir William Taylor, K.C.B., M.D., Surgeon-General); the President of the Anthropological Institute (A. C. Haddon, Sc.D., F.R.S.); the President of the Royal Medical and Chirurgical Society (Alfred Willett, F.R.C.S.); the President of the Medical Society of London (A. Pearce Gould, F.R.C.S.); the President of the Pathological Society of London (Sir John Burdon Sanderson, Bart., F.R.S.); the President of the Clinical Society of London (Howard Marsh, F.R.C.S.); the treasurer of the Royal Institution of Great Britain (Sir James Crichton Browne, M.D., LL.D., F.R.S.); the Principal of the University of London (Sir Arthur W. Rücker, D.S., LL.D., F.R.S.); the Dean of the Medical Faculty of the University of London (Henry T. Butlin, F.R.C.S., LL.D.); the Principal of the Owens College, Manchester (Alfred Hopkinson, K.C., LL.D.); the Dean of the Medical Faculty of the Owens College, Manchester (Professor W. Stirling, M.D., D.Sc.); the President of the University of Durham College of Medicine (Sir George Hare Philipson, M.D., D.C.L., LL.D., F.R.C.P.); the Dean of the Medical Faculty of the University of Birmingham (Professor B. A. Windle, M.D., Sc.D., F.R.S.); Sir T. Barlow, Bart., K.C.V.O., physician to H.M. Household; Sir William H. Broadbent, Bart., K.C.V.O., F.R.S., physician-in-ordinary to H.M. the King; Sir Francis Laking, Bart., G.C.V.O., physician-in-ordinary to H.M. the King; Sir Trevor Lawrence, Bart., K.C.V.O., treasurer of St. Bartholomew's Hospital; Sir R. Douglas Powell, Bart., K.C.V.O., physician-extraordinary to H.M. the King; Sir James Reid, Bart., G.C.V.O., K.C.B., physician-in-ordinary to H.M. the King; Sir Thomas Smith, Bart., K.C.V.O., honorary sergeant-surgeon to H.M. the King; Sir Henry Thompson, Bart., F.R.C.S.; Sir Frederick Treves, Bart., K.C.V.O., C.B., sergeant-surgeon-in-ordinary to H.M. the King; Sir Samuel Wilks, Bart., F.R.S., late President of the Royal College of Physicians; Sir John Evans, K.C.B., D.C.L., F.R.S.; Sir Michael Foster, K.C.B., M.P., F.R.S., secretary to the Royal Society; Sir Lawrence Alma Tadema, R.A.; Sir William Mitchell Banks, M.D., F.R.C.S., LL.D., emeritus professor of anatomy, University College, Liverpool; Sir Joseph Fayrer, Bart., K.C.S.I., honorary physician (military) and physician-extraordinary to H.M. the King; Sir Lauder Brunton, M.D., D.Sc., LL.D., F.R.S.; Sir Dyce Duckworth, M.D., LL.D., F.R.C.P.; Sir Victor Horsley, F.R.C.S., F.R.S.; Sir Hermann Weber, M.D., F.R.C.P.; T. Clifford Allbutt, M.D., F.R.C.P., F.R.S., Regius professor of physic, Cambridge; H. Charlton Bastian, M.D., F.R.C.P., F.R.S.; John Beddoe, M.D., LL.D., F.R.S.; Rubert Boyce, F.R.S., professor of pathology, University College, Liverpool; W. Watson Cheyne, C.B., F.R.S., late President of the Pathological Society of London; J. Michell Clarke, M.D., F.R.C.P., professor of pathology, University College, Bristol; Sheridan Delépine, B.Sc., M.B., professor of pathology, &c., the Owens College, Manchester; Francis Gotch, D.Sc., F.R.S., professor of physiology, University of Oxford; W. D. Halliburton, M.D., F.R.S., professor of physiology, King's College, London; Alex. Hill, M.A., M.D., master of Downing College, lecturer in advanced anatomy, University of Cambridge; Jonathan Hutchinson, LL.D., F.R.S.; D. N. Langley, D.Sc., F.R.S., deputy professor of physiology, University of Cambridge; E. Ray Lankester, LL.D., F.R.S., director of the Natural History Department of the British Museum; Patrick Manson, C.M.G., M.D., F.R.S., medical adviser, Colonial Office; Sidney Martin, M.D., F.R.S., professor of pathology, University College; Fred. W. Mott, M.D., F.R.S., director of the pathological laboratories of the London County asylums; Shirley F. Murphy, medical officer of health of the administrative County of London; H. Montague Murray, M.D., F.R.C.P.; Thomas Oliver, M.D., F.R.C.P., professor of physiology, University of Durham; Stephen Paget, F.R.C.S.; A. M. Paterson, M.D., professor of anatomy, Liverpool; F. W. Pavy, M.D., LL.D., F.R.S.; J. F. Payne, M.D., F.R.C.P., late President of the Pathological Society of London; W. H. Power, C.B., F.R.S., senior medical officer to the Local Government Board, England; P. H. Pye-Smith, M.D., F.R.C.P., F.R.S.; James Ritchie, M.A., M.D., reader in pathology, University of Oxford; S. G. Shattock, F.R.C.S., pathological curator of the Hunterian Museum; C. S. Sherrington, M.D., F.R.S., professor of physiology, University College, Liverpool; E. H. Starling, M.D., F.R.S., professor of physiology, University College, London; E. B. Tylor, D.C.L., LL.D., F.R.S., professor of anthropology, University of Oxford; Thomas H. Wakley, F.R.C.S., and Thomas Wakley, jun., L.R.C.P. (joint editors of THE LANCET); C. Theodore Williams, M.D., F.R.C.P.; Dawson Williams, M.D., F.R.C.P., editor of the *British Medical Journal:* and G. Sims Woodhead, M.D., professor of pathology, University of Cambridge. *Scotland.*—The President of the Royal Society of Edinburgh (the Right Hon. Lord Kelvin, P.C., O.M., G.C.V.O., F.R.S.); the President of the Royal College of Physicians of Edinburgh (Professor Sir Thomas Fraser, M.D., F.R.S.); the President of the Faculty of Physicians and Surgeons of Glasgow (James Finlayson, M.D., LL.D.); Sir William T. Gairdner, K.C.B., F.R.S., honorary physician-in-ordinary to H.M. the King in Scotland; the Dean of the Medical Faculty of the University of Edinburgh (Professor A. R. Simpson, M.D., F.R.C.P. Edin., professor of midwifery, University of Edinburgh); Sir Hector C. Cameron, professor of clinical surgery, University of Glasgow; Sir Henry D. Littlejohn, profesor of forensic medicine, University of Edinburgh; Sir W. Macewen, F.R.S., professor of surgery, University of Glasgow; Sir J. Batty Tuke, M.D., F.R.C.P. Edin., M.P.; John Cleland, M.D., LL.D., F.R.S., professor of anatomy, Glasgow; W. S. Greenfield, M.D., professor of pathology, University of Edinburgh; D. J. Hamilton, M.B., professor of pathology, University of Aberdeen; John G. McKendrick, M.D., LL.D., F.R.C.P. Edin., F.R.S., professor of physiology, University of Glasgow; R. Muir, M.D., F.R.C.P. Edin., professor of pathology, University of Glasgow; A. Ogston, M.D., professor of surgery, Aberdeen, honorary surgeon to H.M. the King in Scotland; T. B. Pettigrew, M.D., LL.D., F.R.C.P. Edin., F.R.S., professor of anatomy, &c., University of St. Andrews; J. B. Russell, M.D., LL.D., medical member, Local Government Board for Scotland; and E. A. Schäfer, LL.D., F.R.S., professor of physiology, University of Edinburgh. *Ireland.*—The President of the Royal College of Physicians in Ireland (Professor A. V. Macan, M.B.); the President of the Royal College of Surgeons in Ireland (L. H. Ormsby, M.D., F.R.C.S.); Sir John Banks, K.C.B., honorary physician to H.M. the King in Ireland; Sir Christopher Nixon, M.D., LL.D., professor of medicine, Catholic University of Ireland; D. J. Cunningham, M.D., D.Sc., LL.D., D.C.L., F.R.S., professor of anatomy, &c., University of Dublin; A. C. O'Sullivan, M.B., lecturer on pathology, Trinity College, Dublin; and J. Symington, M.D., professor of anatomy, Queen's College, Belfast.

Lord LISTER said that this country was not the only one besides Germany in promoting the object of the committee. He understood that a Danish committee under the presidency of Professor Salomonsen had been instituted for the same purpose. Their committee having been constituted as

read by Sir Felix Semon the first business was to elect officers, and he called upon Mr. A. Willett, the President of the Royal Medical and Chirurgical Society, to make a proposal.

Mr. A. WILLETT, in proposing Lord Lister as chairman, Lord Avebury as treasurer, and Sir Felix Semon as secretary, said that it was most fitting that Lord Lister, the most celebrated British surgeon and pathologist, should be willing to place himself at the head of the British movement to join other countries in doing honour to the late Professor Virchow, known to all civilised nations as the inventor of cellular pathology and the author and editor of the world-renowned "Archives."

Dr. HADDON seconded the motion and referred to the work that Virchow had done in anthropology.

The election of the officers was agreed to unanimously.

Lord LISTER, again rising, said that they had to consider whether it was desirable or not that any limit should be put upon subscriptions. He thought it would be undesirable to make any limit and said the idea was to announce the names of those who contributed but not the sums given. As there was no expression to the contrary he took it that that was the view of the committee.

This was agreed to.

Sir FELIX SEMON then read a form of appeal (given below) which it was proposed to send to the editors of newspapers and medical journals.

This proposal was moved by Sir WILLIAM H. BROADBENT who said that those who had even a superficial knowledge of Virchow's work were astounded at his remarkable versatility.

The motion was seconded by Mr. SHATTOCK, and in reply to a question from Mr. STEPHEN PAGET Lord LISTER stated that the memorial would be a statue at Berlin.

The proposal with regard to the form of appeal was then adopted.

Lord LISTER then proposed a vote of thanks to Sir Felix Semon which was carried unanimously.

Sir HERMANN WEBER then proposed a vote of thanks to the Chairman.

This was seconded by Professor SHERRINGTON and was suitably acknowledged by Lord LISTER.

The meeting then terminated.

The following is the appeal referred to above:—

VIRCHOW MEMORIAL.

London, Nov. 21st, 1902.

SIR,—A movement has been inaugurated in Germany to erect a statue at Berlin to the late Professor Rudolph Virchow.

Representatives of science and art, irrespective of political parties, have joined the committee constituted for this purpose, and it is hoped that the appeal recently issued by the committee will meet with a very general response.

At the same time it is felt that this movement ought to be more than an exclusively German one. Professor Virchow's labours in medicine, public health, anthropology, ethnology, and archæology have benefited the world at large, and amongst his pupils have been men of every nationality. It is believed that in this country in particular, of which he was ever a staunch friend, and amongst the men of science of which he numbered many devoted admirers, a general desire will be felt to participate in the movement intended to do homage to him at the seat of his labours.

With this object a British committee has been formed, the chairmanship of which has been undertaken by Lord Lister, with Lord Avebury as honorary treasurer and Sir Felix Semon as honorary secretary.

The committee now invite subscriptions from all those who wish to pay a last tribute to the memory of one of the greatest men of our time. Whilst it has been decided not to limit the maximum amount of contributions in order not to check the generosity of those who may desire to show their appreciation of Professor Virchow's services to humanity in a substantial form, the committee are particularly anxious that it should be understood that even the smallest contributions will be cordially welcomed, as the main object of the British collection is to testify to the widespread amount of esteem and veneration which the deceased scientist enjoyed in this country.

Cheques and postal orders made payable to "Virchow Memorial," and crossed "Messrs. Robarts, Lubbock & Co.," may be sent to "The Hon. Treasurer of the Virchow Memorial, care of Messrs. Robarts, Lubbock & Co., 15, Lombard-street, London, E.C.," who will send an acknowledgment to the individual contributors.

When the list has been closed the honorary treasurer will forward the amount to the treasurer of the Berlin Committee, together with a list of the contributors, but the amount of the individual contributions will not be stated.

We inclose a list of the committee, and have the honour to remain, Sir,

Yours faithfully,

LISTER.
AVEBURY.
FELIX SEMON.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ANNUAL MEETING OF FELLOWS AND MEMBERS.

THE nineteenth annual meeting of the Fellows and Members of the Royal College of Surgeons of England was held on Nov. 20th. Only 50 Fellows and Members were present in addition to seven members of the Council.

The PRESIDENT (Sir HENRY G. HOWSE) took the chair and was supported by one of the VICE-PRESIDENTS (Mr. J. TWEEDY).

The PRESIDENT placed before the meeting the report of the Council for the year ending August 1st, 1902, and stated that the meeting was open for any remarks on the report.

Surgeon-Major J. INCE regretted to see from the report that a very large reduction in the capital of the College had taken place during the last ten years; still, by investments the amount of capital was being increased and he hoped that the total loss would be made up. He proposed a vote of thanks to the Council for the report.

Mr. E. DENNIS VINRACE wished to draw the attention of the President to the answers given by the Council to the resolutions carried at the last annual meeting. In answer to the first resolution, which invited the Council to suggest some scheme for granting the Members some share in the direction of the affairs of the College, the Council had said that it was of opinion that it would be most undesirable to re-open the question of the representation of Members on the Council. He would like to have this answer explained.

The PRESIDENT stated that he could only say that the answer represented the opinion of the Council.

Mr. VINRACE pointed out that the Council's reply to the second resolution, which referred to the action of the Council in the matter of the recognition of scientific institutions, merely stated that the resolution had been laid before the Council. What did this mean? Had the resolution been considered by the Council or not?

The PRESIDENT, in reply, said that certainly the resolution had been considered.

In reference to the fourth resolution, which claimed that the representative of the College on the General Medical Council should be appointed by the Fellows and Members of ten years' standing, Mr. VINRACE said that he was unable to understand the reply of the Council of the College which stated that as it was essential for the representative to be a member of the Council of the College he should be appointed by that Council. He maintained that the General Medical Council was not justified in accepting a representative for the College appointed only by the Council of the College.

The PRESIDENT pointed out that the Council of the College, in appointing the representative on the General Medical Council, believed it was acting legally, ethically, and rightfully and any objections to the action of the General Medical Council in accepting the representative so appointed must be addressed to the General Medical Council.

The PRESIDENT then called upon Dr. THOMAS MORTON to introduce the first motion, which was as follows:—

That this meeting regrets that the Council has not responded to the invitation made to them last year to formulate a scheme by means of which the Members may receive that representation to which they have for many years claimed to be entitled. The Council is, moreover, respectfully assured that the Members cannot consider this question closed on their part so long as they have opportunities of expressing their views and are supported by the general opinion of the profession.

The Members of the College were an integral part of the College and this fact was acknowledged by the Council in 1888 when it applied for a new Charter, for it then spoke of the body corporate consisting of Fellows and Members. The Members, moreover, formed a very considerable part of the College, for they far outnumbered the Fellows. The Council, indeed, claimed to represent the Members as well as the Fellows, but it did not. Where would the College be without its Members?

Mr. JOSEPH SMITH seconded the motion. He had attended the annual meetings for 18 years; on every occasion a resolution on this subject had been carried and the Council had always given the same reply. It was a standing disgrace that the 15,000 or 16,000 Members should be utterly unrepresented in the governing body of their own College. The representation of the Members would give dignity to the College.

Sir ROBERT CRAVEN maintained that the constitution of the College was not so anomalous as seemed to be imagined. Other similar bodies, such as the Royal College of Physicians of London, the Society of Apothecaries of London, and the Royal College of Surgeons of Edinburgh, were governed by the Fellows or by those corresponding to them and not by the general body of members. No one could maintain that the College was not splendidly managed. Nevertheless, he was in favour of some representation being granted to the Members.

Mr. W. A. DINGLE asked why those Members who desired representation did not take the Fellowship. It was open to all.

Mr. N. B. HARMAN said that at Cambridge the members of a College had no voice in the management of their College.

Mr. J. W. COLLINGWOOD urged that in every University the members had some voice in the management of the University. Members of a College of a University were not comparable with Members of the College of Surgeons. It would be better to do away with the anomalous name of Member and make them Licentiates if no representation were to be granted.

Mr. MALLAM supported the motion and hoped that the Council would see its way to grant representation to the Members.

The motion was carried by 30 votes to 2.

Dr. HERBERT SNOW introduced the second motion, which was:—

That strangers should be allowed to be present in the gallery during the annual meeting.

He maintained that to deliberate with closed doors was contrary to the spirit of the times. The custom of such bodies as the House of Commons was to admit strangers to hear debates and he thought that the College of Surgeons could only benefit by permitting students and others interested to listen to the debates. There was an ample unoccupied gallery.

Mr. J. BRINDLEY JAMES seconded the motion. He failed to see why reporters should be admitted and other members of the public be excluded.

Surgeon-Major INCE opposed the motion.

Mr. COLLINGWOOD was inclined to think that to admit students to listen to the debates would do harm, as they would hear how the College treated its *alumni*, and the result would be that they would not go in for the Conjoint diplomas.

Mr. VINRACE said that the point to be determined was whether all strangers should be admitted or only those introduced by a Member.

The PRESIDENT held that the motion must be put in the form in which it stood, and when put to the vote it was lost by 17 votes to 16.

Dr. W. G. DICKINSON brought forward the third motion:—

That this meeting desires to draw attention to the fact that the candidates' fees for the Fellowship examinations "just suffice to defray the out-of-pocket expenses," while those for the Membership yield an annual profit of some thousands of pounds, besides paying the whole of the expenditure of the College in connexion with the Examination Hall. In view of this fact this meeting considers it unjust that in the Fellows alone should be vested the election of the Council and the government of the College, while the Members have practically no collegiate rights or privileges. And this meeting further considers that the general working expenses of the College, apart from those of the museum and library, are much too high.

The motion naturally was divided into two parts. The first had to do with the relative pecuniary results of the examination for the Fellowship and the Membership. There was no profit from the examinations for the Fellowship, while the examinations for the Membership gave a profit of several thousand pounds a year. Of course, it was only a subsidiary argument, but the fact that the College lived on the fees of the Members should have some value in supporting the claims of the Members to share in the government of the College. The second part of the motion concerned the expenses of the College. In the first place the expenses of the various examinations varied greatly and there did not appear any reason why in the case of the first examination the examiners' fees amounted to only one-sixth of the receipts; in the third examination they formed nearly half. Dr. Dickinson proceeded to criticise in detail the general working expenses of the College, mentioning especially the item, fuel and light, which amounted to £442. He claimed that more particulars should be given.

Mr. JOSEPH SMITH seconded the motion.

Surgeon-Major INCE considered that it would be very undignified for the meeting to pass what was practically a vote of censure on the Council.

The PRESIDENT gave a very detailed explanation of most of the items referred to, and with regard to the very large expense of warming and lighting he pointed out that the extent of the museum was exceedingly great and that it was necessary to prevent any great variation of temperature in the museum in order to prevent damage to the specimens.

Dr. DICKINSON then asked to be permitted to withdraw the second part of the motion, and this being allowed the first part was put to the meeting and carried by 17 votes to 7.

Mr. BRINDLEY JAMES moved—

That this meeting supports the proposal to enter into combination with the University of London in order to facilitate the acquisition by London students of a degree carrying with it the title of Dr. and will be glad to have submitted to it the report (if made) of the Conjoint Committee of the two Colleges on this subject.

Mr. James said that Great Britain was the only part of the world where qualified medical men did not have the title of "Dr." He did not think there was any need to go to the University of London, for it would only give the degree of M.B. The Conjoint student required the title of "Dr." and the two Colleges should obtain powers to grant it. At the present time students were leaving London and were going to Scotland or the provinces.

Mr. COLLINGWOOD seconded the motion. The possessor of the degree of M.D. was not necessarily superior to the Conjoint men.

Surgeon-Major INCE thought that any attempt to give the title of "Dr." to those who had no real right to it was wrong.

Mr. JOSEPH SMITH hoped that the two Colleges would be able to do something.

Sir ROBERT CRAVEN confessed that he himself had always preferred the title of "Mr.," but no doubt in different circumstances the title of "Dr." was of value to a medical man.

The PRESIDENT stated that some years ago, when the two Colleges endeavoured to obtain the power to grant the degree of M.D. to their diplomates, the Privy Council gave a very decided refusal.

On being put to the vote the motion was carried by 13 votes to 1.

Mr. BRINDLEY JAMES proposed a vote of thanks to the President and it was carried by acclamation.

NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION AND OTHER FORMS OF TUBERCULOSIS.

EDINBURGH.

AT the meeting of the Edinburgh Medico-Chirurgical Society held on Nov 19th the business before the meeting, which was a special one, was a discussion on the means to be adopted for the prevention of pulmonary tuberculosis and the question of the notification of the disease. Professor Sir Thomas R. Fraser in an opening speech indicated the lines which the discussion should take, after which Dr. H. Harvey Littlejohn opened the discussion proper. He contrasted the preventive measures with which medical men were chiefly concerned with those which might reasonably be carried out by a municipality. It was necessary that people should be educated as to what measures they might take for their own and for other persons' safety. (1) The central authority should be informed as to the whereabouts of cases of pulmonary tuberculosis; (2) spitting should be prevented; and (3) sanatoriums should be established. As to notification, the times were hardly ripe for compulsory notification, but he thought that voluntary notification would be of great value. Mr. Lang Todd, chairman of the public health committee of the town council, said that last year the question had been discussed in the town council. The meeting agreed that compulsory notification was undesirable but that voluntary notification was desirable. Dr. W. Leslie Mackenzie dealt with the powers possessed by local authorities under the Public Health (Scotland) Act of 1897. Dr. R. W. Philip and others

continued the discussion, of which we hope to give further details in a future issue.

GLASGOW.

A meeting in connexion with the Glasgow and District Branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis was held recently in the City Hall, Glasgow. Lord Inverclyde presided, and among the others on the platform were Sir Herbert Maxwell, M.P., Professor T. Clifford Allbutt, Professor Sir Hector Cameron, the Lord Provost-Elect (Mr. Ure Primrose), Professor T. M'Call Anderson, Dr. James Finlayson (president of the Faculty of Physicians and Surgeons of Glasgow), Professor R. Stockman, and Dr. A. K. Chalmers (medical officer of health of Glasgow).—Lord Inverclyde said that there was a growing opinion that consumption ought to be dealt with by some modified method of isolation, because it was recognised on all hands that it was in some degree an infectious disease. There were three important points which were leading features in the work of the association. The first was recognition of the fact that impure air must be treated as being as great a danger as impure water. In the second place, what was described as "indiscriminate expectoration" was not only very offensive but was insanitary and dangerous. The third object was the most important of all—the establishment of sanatoriums throughout the country where poor persons could be treated while the disease was still in a state when it could be dealt with. The committee which had been charged with the duty of finding a site in the neighbourhood of Glasgow had been able to acquire a property of 27 acres near Lanark on which in course of time suitable buildings would be erected. Money would be required, but that question would be raised at another meeting.—Sir Herbert Maxwell said that since Professor Koch had isolated the bacillus of tuberculosis that disease, which had previously been considered ineradicable and hereditary, had been proved to be both manageable and infectious, and it was owing to recent discoveries in that direction that it was possible to form a national association for dealing with the disease. With regard to expectoration he did not despair in time of seeing the habit abandoned. Let them try, at any rate, to bring up the rising generation to acquire the habit of not spitting. He submitted that the necessity for notification existed in connexion with tuberculosis. Without it there was no use in trying to extirpate the disease or, at all events, to reduce it to manageable limits in the same way as small-pox had been reduced. Of course, with compulsory notification sanatoriums for the treatment of patients was a necessary corollary.—Professor T. Clifford Allbutt said that the duty of scientific men in the matter was not to tell the State what to do but to tell them the result of their investigations. He bore testimony to the assistance which the association had received from Lord Derby and Sir Herbert Maxwell. In regard to the question of notification he would not have been disposed to go quite so far as Sir Herbert Maxwell. Voluntary notification had proved to be a much stronger thing than had been anticipated. When the public came to understand that the measures necessary for the protection of the healthy were simple and straightforward they would recognise that there was no ground for alarm on account of the proximity of a person stricken with tuberculosis. In 4000 post-mortem examinations made by a well-known Leipsic medical man he was able to recognise evidences of tuberculosis in 40 per cent. of the cases. The death-rate from tuberculosis was, however, nothing like this proportion, the meaning of which was that numbers of persons passed through an attack without either they themselves or their friends knowing anything about it. They perhaps lost a little flesh or were run down, and were restored to health by a holiday. He believed it possible that the time would come—not, perhaps, in his lifetime but in the lifetime of the majority of those present—when tuberculosis would become extinct.—Sir Hector Cameron afterwards moved a vote of thanks to the speakers.—The Lord Provost-Elect, in proposing a vote of thanks to the chairman, said that ten years ago he had the honour of conducting through Parliament the first building regulations for Glasgow, which sought to give more of the air and sunlight which were so much desired, and the corporation was allowed to establish some precedents which were not previously in the statute-book. In the corporation the association would ever find willing help.—The proceedings then terminated.

DORSETSHIRE.

Lord Ilchester, the Lord Lieutenant of the county, has promised to give a site and a donation of £500 towards the cost of erecting a sanatorium for consumption in Dorsetshire. At a county meeting held at Dorchester on Nov. 4th it was suggested that the counties of Devon, Cornwall, and Dorset might combine for the purpose of carrying out a joint scheme, but it was finally decided that Dorsetshire should act independently of the neighbouring counties.

WINSLEY SANATORIUM.

At a meeting held in Clifton on Nov. 12th in connexion with the scheme for the erection of an open-air sanatorium at Winsley, Wiltshire, it was stated that the financial support being given was not sufficient. £8000 had been already raised, and as soon as the committee received about £6000 in addition building operations for a smaller scheme—namely, the providing of 40 beds—would be proceeded with, the intention being to add wings to afford accommodation for additional beds when sufficient funds were at the disposal of the committee.

GERMANY.

Acting on the advice of Dr Alfred P. Hillier of London, who was one of the English delegates to the International Conference on Tuberculosis held in Berlin during last October,[1] a party composed of representatives of several prominent English friendly societies arrived in Berlin on Nov. 22nd for the purpose of making themselves acquainted with the German system of sanatoriums for tuberculous patients.

CONSTRUCTION AND ADMINISTRATION OF SANATORIUMS.

At the rooms of the Royal Institute of British Architects, 9, Conduit-street, London, W., on Nov. 21st, papers entitled "Sanatoria for Consumptives" were read by Dr Jane Walker and Mr. Cecil C. Brewer, architect. It will be remembered that in THE LANCET of August 9th, 1902, p. 369, the announcement of the names of the winners of the three prizes in the King's Sanatorium competition was followed by the enumeration of four essays which being of great excellence were awarded honourable mention and that one of these was by Dr. Jane Walker, with whom were associated as architects Messrs. Smith and Brewer. In the paper read on Nov. 21st Dr. Jane Walker said that the sanatorium treatment of consumption was a minute and elaborate system made up of endless details all of which were important. She then discussed the site, structural arrangements, and surroundings of a sanatorium and methods of sewage disposal, concluding with a description of the daily routine of a patient's life in these establishments. Her recommendations with regard to site, ventilation, and the surfaces of the walls were as follows:—

> The heating should be by some central system. The greatest restrictions should be placed upon all accessories, such as carpets and curtains, &c., which might harbour dust and the lighting should be by electricity. But as, in spite of the best ventilation, the air inside a building was never so pure as that without, arrangements must be made to allow of patients spending as much time as possible in the open air, so that the rooms were used practically for sleeping only. In this climate verandahs were a mistake; they kept off sunlight and air. There should be covered shelters either quite away from the house or built as an extension of the corridors.
>
> A very important element in the possibility of constantly living in the open air and of rational ventilation was protection from wind. This could best be obtained by placing the building on the slope of a hill at some distance from the top and facing nearly due south. A south wind was rare and, as it nearly always brought rain, it could not bring dust and, therefore, was the least harmful that blew. Another point in the efficient ventilation of the building was the construction and situation of the windows. It was essential that the patients' part of the building, at any rate, should be only one brick thick, the rooms facing south, with a corridor behind into which opened windows facing north. Each patient's room should have, practically, the whole of the south side window space; the lower part of the window should be of the casement type, as sash windows only allowed at the best of half the available space being used as fresh air inlet; the upper part of the windows should be flaps or casements, falling inwards. On the north side of the rooms should be a similar series of upper windows which should be opposite to the windows in the corridors which should be colour-washed with some cheap material. It was not advisable to have varnished walls. There was a constant percolation of air through the ceilings and walls of ordinary dwelling-houses sufficient to aid materially in their ventilation. By varnishing walls, not only was the air prevented from gaining access to the rooms, but a cool surface was presented upon which in cold weather the warmer air of the rooms condenses and a continual state of moisture of the walls results, which, especially in damp or foggy weather, might be described as sweating. She had found by personal experience of a varnished bedroom that all metal things, such as keys, scissors, &c., were continually rusty and that the room tended to have a damp, musty smell, and that in spite of perpetual open windows, ...

[1] THE LANCET, Nov. 1st (p. 1215) and 8th (p. 1282).

The moist condition of the walls was not only unpleasant, but was certainly injurious, as germs tended to breed in moisture and though varnished walls could be readily washed and cleaned, yet unless they were done most thoroughly every day and every part of the wall was dried, she considered that such accumulations of moisture were a very distinct drawback. It was not so much that the walls were likely to be harbourers of the tubercle bacilli, as that anything which formed a nidus for any kind of micro-organism was to be highly deprecated in a building which set out to be upon correct hygienic principles.

If walls were colour-washed and done again as a routine thing from time to time, and the walls of the bedrooms were done always when a patient left the sanatorium, the expense was not great, and the certainty that the walls were clean and aseptic was secured.

Mr. Brewer said that existing sanatoriums as to their plans might be roughly divided into (1) those built on a concentrated plan; and (2) those on the cottage or block system. The buildings at Falkenstein, Hohenhonnef, and some other places in Germany, having five floors, are examples of the first type, while those at Nordrach are examples of the second. He then gave descriptions, illustrated by lantern pictures, of the sanatoriums at Falkenstein, Hohenhonnef, Ruppershain, Alland, Albertusberg, and the East Anglian Sanatorium at Nayland, Suffolk, of which Dr. Jane Walker is the medical director.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8144 births and 4819 deaths were registered during the week ending Nov. 22nd. The annual rate of mortality in these towns, which had been 16·6, 17·3, and 17·4 per 1000 in the three preceding weeks, declined again last week to 16·9 per 1000. In London the death-rate was 17·4 per 1000, while it averaged 16·7 in the 75 other large towns. Among these large towns the lowest death-rates were 6·1 in Ipswich, 7·6 in Hornsey, 8·4 in Rotherham, 9·2 in Burton-on-Trent, 9·3 in Bournemouth, 9·5 in Wallasey, and 9·8 in Croydon; the highest rates were 21·5 in Stockport and in Liverpool, 21·7 in Gateshead, 22·3 in Middlesbrough, 23·0 in St. Helens, 24·2 in Newport (Mon.), 28·1 in Merthyr Tydfil, and 34·2 in Hanley. The 4819 deaths in these towns last week included 509 which were referred to the principal infectious diseases, against 604, 576, and 509 in the three preceding weeks; of these 511 deaths, 167 resulted from measles, 88 from diphtheria, 87 from diarrhœa, 71 from whooping-cough, 53 from "fever" (principally enteric), 42 from scarlet fever, and three from small-pox. No death from any of these diseases was registered last week in Bournemouth, Plymouth, Burton-on-Trent, Handsworth, or King's Norton; in the other towns they caused the lowest death-rates in Walthamstow, Northampton, Aston Manor, Leicester, Derby, Burnley, and York, and the highest rates in Hanley, Hull, West Hartlepool, South Shields, Newport (Mon.), Cardiff, Rhondda, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Hanley, Liverpool, Bootle, Salford, Hull, West Hartlepool, South Shields, Newport (Mon.), and Cardiff; from scarlet fever in St. Helens; from diphtheria in Bury and Rhondda; from whooping-cough in Merthyr Tydfil; and from diarrhœa in Hanley, Coventry, Rochdale, and Swansea. The mortality from "fever" showed no marked excess in any other of the 76 large towns. Of the three fatal cases of small-pox registered in these towns last week, one belonged to Oldham, one to Leeds, and one to Merthyr Tydfil. The number of small-pox patients under treatment in the Metropolitan Asylums hospitals, which had been 19, 14, and 11, at the end of the three preceding weeks, had risen again to 14 at the end of last week; six new cases were admitted during the week, against six, none, and two in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, on Saturday, Nov. 22nd, was 2768, against 2869, 2900, and 2839 on the three preceding Saturdays; 249 new cases were admitted last week, against 349, 346, and 285 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 298, 332, and 347 in the three preceding weeks, further rose last week to 381, but were 42 below the average. The deaths directly attributed to influenza numbered 20, having been 10, 23, and nine in the three preceding weeks. The causes of 50, or 1·0 per cent., of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leicester, Manchester, Bradford, Leeds, Hull, Newcastle-on Tyne, and in 42 other smaller towns; the largest proportions of uncertified deaths were registered in Hanley, Birmingham, Liverpool, Bootle, Sheffield, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 18·9, 17·1, and 16·4 per 1000 in the three preceding weeks, further declined to 15·7 per 1000 during the week ending Nov. 22nd, and was 1·2 per 1000 below the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 10·9 in Perth and 11·2 in Leith, to 18·9 in Greenock and 20·5 in Paisley. The 507 deaths in these towns included 20 from diarrhœa, nine from whooping-cough, eight from scarlet fever, two from measles, two from diphtheria, and two from "fever." In all, 43 deaths resulted from these principal infectious diseases last week, against 55, 54, and 40 in the three preceding weeks. These 43 deaths were equal to an annual rate of 1·3 per 1000, which was 0·5 per 1000 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 18, 21, and 22 in the three preceding weeks, declined again last week to 20, of which 11 occurred in Glasgow and five in Edinburgh. The deaths from whooping-cough, which had been 16, 18, and three in the three preceding weeks, rose again to nine last week, and included six in Glasgow and two in Dundee. The fatal cases of scarlet fever, which had been seven, four, and two in the three preceding weeks, rose again last week to eight, of which three were registered in Glasgow, two in Dundee, and two in Paisley. The deaths from measles, which had been five, three, and four in the three preceding weeks, declined again last week to two, both of which occurred in Aberdeen. The deaths referred to diseases of the respiratory organs in these towns, which had been 146, 150, and 139 in the three preceding weeks, further declined last week to 131, and were 56 below the number in the corresponding period of last year. The causes of 23, or nearly 5 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23·9, 30·3, and 26·7 per 1000 in the three preceding weeks, rose again to 31·1 per 1000 during the week ending Nov. 22nd. During the past four weeks the death-rate has averaged 28·0 per 1000, the rates during the same period being 17·1 in London and 15·9 in Edinburgh. The 226 deaths of persons belonging to Dublin registered during the week under notice were 32 in excess of the number in the preceding week, and included 33 which were referred to the principal infectious diseases, against 27, 30, and 23 in the three preceding weeks; of these, 18 resulted from measles, seven from diarrhœa, four from diphtheria, three from scarlet fever, and one from "fever," but not one from either small-pox or whooping-cough. These 33 deaths were equal to an annual rate of 4·5 per 1000, the death-rates last week from the same diseases being 1·7 in London and 0·8 in Edinburgh. The fatal cases of measles, which had been 16, 16, and 10 in the three preceding weeks, rose again last week to 18. The deaths from diarrhœa, which had been three, two, and three in the three preceding weeks, further rose to seven last week. The fatal cases of diphtheria, which had been three and one in the two preceding weeks, rose again last week to four. The deaths from scarlet fever, which had been four and two in the two preceding weeks, rose again last week to three. The 226 deaths in Dublin last week included 67 of children under one year of age and 39 of persons aged upwards of 60 years; the deaths of infants largely exceeded the number in the preceding week, while those of elderly persons showed a marked decline. Four inquest cases and two deaths from violence were registered; and 72, or nearly one-third, of the deaths occurred in public institutions. The causes of 17, or nearly 8 per cent., of the deaths registered in Dublin last week were not certified.

The Registrar-General reports that for the week ending Nov. 15th the deaths from small-pox, from "fever," and from measles were incorrectly stated owing to an error in a manuscript return from Dublin, as 10, four, and two respectively. The correct number of deaths for that week are 10 from measles, two from scarlet fever, and none from small-pox.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Surgeons: R. T. Gilmour and W. K. Hopkins to Malta Hospital; A. F. Fraser to the *Cæsar*; T. H. Vickers to the *Wye*; and C. E. C. Stanford to the *Revenge*.

ROYAL ARMY MEDICAL CORPS.

Major J. I. P. Doyle is placed on temporary half-pay on account of ill-health. Dated Nov. 26th, 1902.

INDIAN MEDICAL SERVICE.

The King has approved of the retirement from the service of the undermentioned officer:—Colonel George McBride Davis, C.B., D.S.O. Dated Oct. 25th, 1902.

IMPERIAL YEOMANRY.

The undermentioned officer resigns his commission and receives a new commission subject to the provisions of the Militia and Yeomanry Act, 1901, retaining his present rank and seniority, viz.:—

Lothians and Berwickshire: Surgeon-Major T. F. S. Caverhill.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The London Companies: Captain T. W. Gibbard, R.A.M.C., to be Adjutant, vice Major L. Way, R.A.M.C., whose period of appointment has expired. Dated Oct. 1st, 1902.

SOUTH AFRICAN WAR HONOURS.

To the names mentioned in THE LANCET of Nov. 8th, p. 1283, the following *Overseas Colonials* should be added:—Surgeon-Major J. A. Devine, 2nd Canadian Mounted Rifles, and Surgeon-Captain H. J. Hutchens, Queensland Contingent, to be Companions of the Distinguished Service Order.

THE RELATION OF PERSONNEL TO BED-CAPACITY IN MILITARY HOSPITALS.

We have received a reprint from the *Journal of the Association of Military Surgeons of the United States* of an article on this subject by Captain John Stewart Kulp of the medical department of the United States army. The article is an attempt in the direction of establishing the definite number of men necessary to man military hospitals of varying sizes, assuming the maintenance of a fairly high standard of efficiency on the part of the institutions. We call attention to it because it contains much information and some useful tables, together with some pertinent and shrewd comments on the part of its author. Captain Kulp alludes, among other things, to the large proportion of officers for administrative purposes in the French service and their plan of dividing their department along professional, administrative, and supply lines as certainly in the direction of increased efficiency. A bad rule, as well as a good one, may, he says, work both ways, and he thinks that the plan which obtains in the United States Army, whereby an officer prepares for administrative work by a career of professional activity and ceases his strictly professional service at the time when by reason of his experience it has become of most value, cannot be defended. The writer institutes an interesting comparison and alludes to the points of contrast, especially in time of war, between civil and military institutions. Civil hospitals occupy buildings specially designed for their purpose, have a definite bed-capacity, and serve for a varied class of patients whose ailments are those usual in that locality, whereas military hospitals have to conform to sudden gains and losses, and the hospital accommodation has to be of a kind adapted to meet changes of locality and climate. In these and other respects, both as regards hospitals and in the nature, connexion, and character of their *personnel*, there are many wide differences between civil and military institutions, some of which are obvious enough while others will only occur on reflection. These are described by Captain Kulp, whose article which is illustrated and consists of 19 pages only, well deserves to be read *in extenso*.

THE MEDICAL EXAMINATION OF ARMY CANDIDATES.

The *Army and Navy Gazette*, referring to some remarks which it had previously made indorsing the view put forward in a recent article in THE LANCET regarding the decision of medical boards, reverts to the subject in its number of Nov. 22nd. While cordially supporting, says our Service contemporary, the contention that the deliberate opinion of a board of medical officers, framed upon the passing or failing to pass certain regulation tests, should not be assailed upon the grounds that a rejected candidate had been afterwards declared fit for the service by some civilian specialist, it urges, nevertheless, that the conditions under which the regulation tests are applied may not be always quite fair to the candidate. In illustration of this view our contemporary refers, for example, to instances where, owing to the prevalence of a London fog, the eyesight has to be tested by electric light and suggests this as a possible cause of a candidate's failure from nervousness. It is pointed out that as military operations are, as a rule, carried out with the aid of natural, not artificial, light it would appear reasonable that a rejected candidate should be permitted to claim an out-door test or one by the clear light of day. In evidence of the fact that a man with a "workably sound" eyesight may be rejected it cites the case of a young officer who, we are assured, had on service given a strong proof of his length and accuracy of vision, but had been unable, where electric light was used, to pass the required regulation tests. Our reason for referring to the subject is simply that our Service contemporary is manifestly actuated by a *bonâfide* spirit of right and fairness in having done so.

Correspondence.

"Audi alteram partem."

THE AMBULANCE SERVICE OF LONDON.

To the Editors of THE LANCET.

SIRS,—On Monday, Nov. 17th, I received a notice kindly granting me a bed for a lady at the West London Hospital at Hammersmith for three o'clock on the same day. The lady was suffering from cancer of the breast and spontaneous fracture of the thigh—an urgent enough case as could well be found. First, at 9 A.M. I telephoned to the hospital asking if they could oblige me with an ambulance and was told that they had not got such a thing at the hospital. I may here state that I was credibly informed that there are only two hospitals in this great metropolis which contain a horse ambulance. I then went to the police-station where I was informed that I should at once be able to procure what I required. The inspector on duty told me that the police had no such thing. He kindly telephoned through to Horseferry-road, Westminster, for a horse ambulance and *stated the nature of the case*. At 2 o'clock P.M. a ragged and unkempt individual, looking like a good-sized boy, drove up to the door with a vehicle having a loose canvas top which was torn through in several places and admitted of the free passage of wind and water; there was no door, and not even a rug. I at once refused to accept such a ramshackle conveyance, which bore the euphonious name, prominently painted upon it, "London Ambulance Service." I directed the driver to go with me to the police-station at High-street, Wandsworth, and I there asked the inspector of police who was on duty to inspect the conveyance as a *public vehicle* and pointed out its disgraceful condition, asking him to make notes of the affair. I also inquired if it were intended for the use of criminals. The inspector assured me that it was not and that it, or a similar conveyance, was recently used for the removal of a member of his own force who was suffering from pneumonia and who died. The police then directed me to the workhouse in the Swaffield-road, Earlsfield, where the public (pauper) ambulances were kept. Here I saw some ambulances of a good class, well horsed, and having respectable liveried attendants, but was met with further difficulties. None of these ambulances were allowed to go out of the premises without the permission of the medical officer of the Wandsworth and Clapham Infirmary, distant about one mile from the workhouse. I then found out the assistant master of the workhouse, who kindly telephoned through to Mr. B. Neal, the medical officer of the Wandsworth and Clapham Infirmary, asking him to grant the necessary leave and explaining the nature of the case for removal. Mr. Neal's reply was that he had no power to allow the use of the ambulances excepting in the

public (poor-law) service. So that while the sick pauper can enjoy comfort and convenience at the expense of the ratepayer, the one who pays for this necessary carriage cannot even have the use of it himself even if he pays for it. Our rates and taxes are now 7*s.* 6*d.* in the pound—for Wandsworth.

I next went a further distance of about another mile and applied at the offices of the borough council and was referred to the offices of the public health department, where I was informed that they could not possibly grant my request. Finally, I had to telephone, to telegraph, or to walk, if I had no money, to the very *nearest* place, the offices of the St. John Ambulance Association, St. John's-gate, Clerkenwell, E.C. Here I finally succeeded in obtaining what I required and the charge for it to the public is £1 11*s.* 6*d.* for the journey named at the commencement of this letter. The distance of the West London Hospital from the patient's house is about four miles. In the meantime the patient could have very well died.

I may add that the ambulance of the St. John Ambulance Association and the two attendants were in every way satisfactory. One of the attendants told me that the Association had offered its services to, I believe, the London County Council, subject to certain payments by that body by way of guarantee or subsidy, and that the London County Council did not consider that the ambulances were required. How far this is true I cannot say.

Now, Sirs, when we consider that any pauper, or any private patient with a mild attack of scarlet fever or other infectious disorder, could have been removed at once at no expense whatever to the patient or friends, it is hard to see why other and certainly often much more urgent cases, should be left to die a miserable death, uncared for and ignored. These remarks apply, I presume, with more or less truth to a metropolis of close on 6,000,000 inhabitants.

I am, Sirs, yours faithfully,

Nov. 21st, 1902. ALBERT S. MORTON, M.D. Durh.

RIGHT-HANDEDNESS AND LEFT-BRAINEDNESS.

To the Editors of THE LANCET.

SIRS,—By a remark in THE LANCET of Nov. 1st, p. 1208, and by Dr. James More's letter in THE LANCET of Nov. 8th, p. 1287, one is glad to find that the belief in right-handedness being dependent on cerebral structure is not unchallenged. From seeing young infants grasp objects with either hand indiscriminately and from the frequency with which one hears the admonition "Not that hand—the other hand," addressed to children somewhat more advanced in age, one cannot help thinking that right-handedness is not innate and that it is in most cases the result of teaching. With the view of counteracting the supposed inherent tendency to right-handedness as well as any uncontrollable external influences in that direction, my object being to bring about ambidexterity, I have in two instances, by putting articles into the left hand, taught children, who previously did not grasp with either hand in preference to the other, to use it more and better than the right. Having given the start to the left hand I found it no easy matter to keep the right hand up to the level of its leader. And that is precisely the difficulty in teaching children to be really ambidextrous.

Left-handedness is caused, in some instances at all events, by imitation of the movements of right-handed older children, the right hand of a person facing the infant being opposite to his left. Either right-handedness or left-handedness—especially the former, for obvious reasons—appears to need but a slight start, the tendency of the child being to use the leading hand in the performance of all acts which do not require two hands and thus to increase its expertness at the expense of its fellow. For this reason, probably, each generation has during many centuries acquired precision as a general rule in the use of one hand only. And as the preferential use of the right hand seems to be almost, if not quite, a matter of ethics, or even religion, with most of the world in the present age some similar but even stronger sentiment may have existed in prehistoric times and, by its practical application, given rise to the osseous asymmetry described by Lehmann-Nitsche and referred to by Professor Cunningham.

I am, Sirs, yours faithfully,

Liverpool, Nov. 21st, 1902. JAMES SHAW, M.D. R.U.I.

PURE UREA IN THE TREATMENT OF TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—Since reading Dr. H. Harper's papers on the above subject I resolved to give my consumptive patients a trial of the drug. The results I have obtained are in harmony with the excellent article by Dr. S. Vere Pearson in your issue of Nov. 22nd (p. 1383). Urea administered to patients with tuberculous disease of the lungs, so far from exerting any specific action, seems to be absolutely inert. Not only is there no arrest of the physical signs in the lungs, but the patients themselves, who are, after all, the best judges of the efficacy of the treatment, often say they feel they are deriving no benefit. Some cases which have gone steadily from bad to worse under urea have been decidedly benefited by creasote, cod-liver oil, and an alkaline mixture containing hydrocyanic acid. Dr. Pearson mentions the case of a woman in whom urea caused pain and frequency of micturition. One of my patients, an elderly man, after having taken 120 grains of urea, complained of irritability of the bladder and constant desire to urinate. This symptom disappeared on stopping the drug. He told me he never had any trouble with his urine before. I have been as fortunate as Dr. Pearson in never meeting with a case in which urea caused gastric symptoms.

I have two cases in mind in which I believe urea did good. One was that of a woman, 50 years of age, who on an average once a month would awake in the small hours of the morning with a sense of impending death, an intolerable feeling of suffocation, and violent throbbing of the heart. These distressing manifestations would last for two or three hours. This woman has angular curvature of the spine, a cavity in each apex, occasional hæmoptysis, and marked valvular disease of the heart. Seven and a half minim doses of tincture of digitalis did her good, but they were not nearly as efficacious in warding off these paroxysms as the same dose of digitalis with 20 grains of urea in an ounce of water. She has gone on for several months without an attack and she says that she has never felt better in her life.

The other case is that of a boy, aged six years, whose mother is phthisical and several of whose maternal uncles and aunts have died from the disease. His appetite has always been poor, he suffers from purulent discharge from the ear, is continually having colds and coughs, and his temperature often registers 101° F. He has been given Parrish's food for a year or two but apparently without much benefit. Two months ago I ordered 10 grains of urea to be added to the Parrish's food. Since then his temperature has never risen and his mother informs me that his appetite is excellent.—I am, Sirs, yours faithfully,

JOSEPH A. W. PEREIRA, L.R.C.P. Lond., M.R.C.S. Eng.

Exeter, Nov. 24th, 1902.

THE STERILISATION OF CATGUT.

To the Editors of THE LANCET.

SIRS,—I desire to call attention to a very simple, speedy, and inexpensive method of sterilising catgut. Most surgeons will agree that an absorbable ligature for vessels is desirable, but many are averse to using catgut on the ground that it is impossible to insure its absolute sterility without subjecting it to such treatment as leaves it too weak and brittle for ordinary usage. For the last two years I have adopted the following method which seems to me to be as simple and as safe as any method can be. Raw catgut may be used, but as the process of freeing it from fat by soaking in ether and subsequent washing is tedious I generally use formalin catgut prepared by Macfarlane and Co. The catgut is wound on glass spools or reels. A hollow glass reel, as suggested for silk ligatures by Mr. Basil Hall, is better than any other form, as it permits the solution in which the reel is boiled to surround completely every strand of the catgut. If a solid spool is employed the catgut on the side next to the glass is never brought into contact with the solution.

For the boiling an enamelled pan is used. In this about one and a half pints of water are boiled. While the water boils ammonium sulphate is gradually thrown into the water. To obtain a concentrated solution about a pound of ammonium sulphate is used. When this concentrated solution boils the catgut is introduced and allowed to remain for 15 minutes. With sterile forceps the reels are then lifted out, washed

thoroughly in boiled or boiling water, and placed in the following solution: iodoform one part, ether six parts, and absolute alcohol 14 parts. The catgut improves with keeping up to about six or eight weeks. The solution of ammonium sulphate boils at 128° C. The catgut may be kept in it for an hour without being softened, but 15 or 20 minutes at a temperature of 128° C are sufficient to insure sterility. The rinsing of the catgut in boiled water is necessary to remove the excess of salt, which otherwise crystallises on the catgut and on the glass. The solution splashes a little while boiling. If the xylol process of preparing catgut is used the metal receiver may be boiled in this solution instead of in water, and the temperature of the xylol thus raised well above 100° C.

I think I may fairly claim for this method that it is extremely simple, that it is efficient, and that the catgut is not weakened even by prolonged boiling.

I am, Sirs, yours faithfully,

Leeds, Nov. 23rd, 1902. B. G. A. MOYNIHAN.

THE DISCHARGE OF INSECTS FROM THE STOMACH.

To the Editors of THE LANCET.

SIRS,—Under "Looking Back" in THE LANCET of Sept. 27th, p. 891, is recorded a curious case in which the larvæ of a dipterous insect were vomited by a patient as well as passed per anum. These cases are rare. My attention was first drawn to the matter about three years ago when I had a patient, a Hindoo gentleman, who passed large numbers of such larvæ from the bowel. This patient had been also under the care of Lieutenant-Colonel W. B. Browning, I.M.S., for the same trouble, and we published the details independently, he in the Transactions of the South Indian Branch of the British Medical Association and I in the *Indian Medical Gazette*. I was not able to trace definitely the source of infection. But since then I have had another case in the person of a Hindoo student. This boy was very fond of fruit, especially mangoes, and he was not careful whether the fruit was sound or not. He was also in the habit of eating the young mango leaf which he plucked from the tree in his daily walk to college. He believed he got infection from these habits. I then examined many samples of mangoes and found quite a number of them infected with the same larva as was passed by this boy. I may say that it took a long time to get rid of the pests—several months. No ordinary parasiticide had the least effect on them *in vitro*, so I used opium to confine the bowels and then enemas and smart purges, when the larvæ would come away in the masses of fæces. The symptoms were those of a mild dyspepsia, with wandering abdominal pains. But the mental condition induced by the presence of such creatures was more serious than the physical effects, there being a constant fear in the patient's mind that the larvæ would cut holes in the bowel by means of their powerful jaws.

I am, Sirs, yours faithfully,

JOHN SMYTH,
Lieutenant-Colonel, Indian Medical Service.

Victoria Hospital, Bangalore, Nov. 2nd, 1902.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND AND THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—If you will allow me I should like to make clear the tenour of some remarks which I made at the annual meeting of the Royal College of Surgeons of England, as I fear that I may not have expressed my views as lucidly as I could desire. I refer to my observations in respect to resolution No. 4 on p. 5 of the annual report of the College, 1902. This resolution sets forth that "as it is essential that the Representative of the College on the General Medical Council should be a member of the Council of the College the Council of the College are of opinion that the election should remain in their hands." My object in drawing attention to the matter was to point out how anomalous it is that the Representative of the College on the Council should be elected by one only of the constituent parts of the College. The anomaly is rendered the more striking by the fact that the Members of the College have no part whatever in the selection of the Council. Thus, while a person nominated by the Council of the College may be said in a sense to represent the Fellows, since the latter are responsible for the election of the Council, he can in no way be said to represent the general body of Members. The consequence is that the General Medical Council admits to its membership as delegate from the College a gentleman who is, in fact, simply a representative of the Council, or, at most, of the Council and Fellows. I submit that it is neither just nor politic that the ordinary Members, who form, of course, by far the greater part of the College, should be ignored in this way. Even granting that, as the resolution says, it is "essential" that the Representative of the College should be a member of its Council, there seems no reason why the general body of Members should be prohibited from participating in his election.

I am, Sirs, yours faithfully,

Alexander-square, S.W., Nov. 21st, 1902. DENNIS VINRACE.

LUNACY AND THE LAW.

To the Editors of THE LANCET.

SIRS,—I am glad that the question of the notification of cases of incipient insanity has again been brought to the front and feel sure Sir William Gowers's address "from the point of view of the hospital physician" will assist in fixing public attention upon a pressing want, long recognised by alienist physicians in this country. At the annual meeting of the British Medical Association in 1896 I advocated the placing of cases of incipient or doubtful insanity in private care, so that they could be brought under early treatment without delay and without certificates. I suggested that in the case of a patient whose insanity was doubtful it should be possible for him to be placed in a private house for observation, care, and treatment on the application of a relative or friend to a magistrate (such application to be accompanied by a written medical opinion upon the case) for a judicial order empowering the detention of the patient for a specified time. The result of the discussion upon that occasion (which was opened by Dr. Rayner) was the appointment of a committee to act jointly with the Medico-Psychological Association. That committee still exists and the outcome of its labours so far has been the insertion of a clause in the Lord Chancellor's Bill of 1900 dealing with the question upon the lines I then indicated. In Sir William Gowers's address and the discussion which followed the tendency was to enlarge the scope of the subject and to make it possible for all cases of recognisable and even certifiable insanity, but not dangerous to themselves or others, to be placed in private care (for payment) by the same procedure—that is, without the stigma of being certified lunatics.

It is here that I would venture to sound a note of warning, for if such cases are to be placed in the care of persons having no knowledge of, or a special training in, the highly responsible duties which they undertake, the most careful and close supervision will be necessary to prevent the glaring abuses which were mainly the cause of the present stringent lunacy law. In my opinion no person should be permitted to take charge of a person of unsound mind without he or she possesses some special knowledge of the care and treatment which those cases require. And more especially should this be a *sine quâ non* in cases of incipient insanity where it would be the early treatment and not the mere boarding out that will save the patient from drifting into incurable insanity.

In speaking of *early treatment* I do not mean "drugs out of a bottle alone," but the moral treatment such as can only be exercised by the specially trained and skilled daily (and nightly) care and supervision to insure the checking of morbid habits and the restoration of self-control. Having seen the most lamentable results follow the boarding out of such cases with well-meaning but ignorant people (I mean ignorant as regards treatment) I trust any relaxation of the present law will not be permitted without the welfare of the patient and the public being safeguarded by efficient official supervision.—I am, Sirs, yours faithfully,

Nov. 24th, 1902. T. OUTTERSON WOOD.

NOTE ON THE DISCOVERY OF THE HUMAN TRYPANOSOME

To the Editors of THE LANCET.

SIRS,—We, the undersigned students of the London School of Tropical Medicine, are wishful to animadvert on the letter of Dr. R. W. Boyce, Major Ronald Ross, and Dr. C. S. Sherrington in THE LANCET of Nov. 22nd, p. 1426. We feel

indignant at the tenour of the letter, which, by implication, asperses Dr. P. Manson and Dr. C. W. Daniels with filching the credit due to other men for their discoveries, and we shall prove hereby how unjust it all is.

Briefly put, the case is as follows. A patient has been resident for some time in the Tropical School Branch of the Seamen's Hospital. Dr. Manson, very early, from the patient's symptoms, inferred the presence in the blood of the trypanosoma, and communicated to all of us in the course of his routine visits to the wards, his conviction that the parasite would eventually be found. In the laboratory, accordingly, Dr. Daniels made careful daily examinations of the blood and eventually was successful, and repeatedly so, in his quest. On the day on which the parasite was first found it fell due that Dr. Manson should lecture in due course. He did so and began by referring to the case, first clearing the ground by disclaiming all originality on his part. He told us that it was a case the clinical features of which had been demonstrated to him at Liverpool which had put him on the track or the cause of the one under dispute. He recounted to us clearly the work which had been done at Liverpool in connexion with the parasite, told us how it had been demonstrated in the human blood in more than one case by more than one observer, and, above all, did full justice to the Liverpool School. Dr. Daniels in the laboratory accorded the same full acknowledgment to the Liverpool School.

You will see, therefore, that in giving all this information to us who will shortly be carrying the facts to all parts of the Empire these two gentlemen did anything rather than try to filch the credit due to other men for their discoveries. Of course—though some of us can—we cannot all affirm that Mr. R. M. Forde and Dr. J. E. Dutton were mentioned by name, for men home on leave, snatching information in a hurry, are more concerned with facts than with names and are very prone to cast aside the latter as useless lumber—this with the fullest respect for scientific pioneers. Could Dr. Manson and Dr. Daniels have done more?

All the above notwithstanding, we are all proud of the present case; for we believe that the utilising of the facts, gleaned from the Liverpool case, by Dr. Manson in so confidently postulating the parasite in the present case from the clinical facts alone is quite in keeping with his reputation.

"*Tantæne animis cœlestibus iræ?*" which may be freely interpreted: Don Quixote was not the only free companion who tilted at windmills. We are particularly sorry to see appended to the letter the name of Major Ross, for hitherto, in our estimation, he and Dr. Manson have always stood together in our list of medical worthies, and we trust that we shall never again see anything in print which may lead to the suspicion of discord between the two.

We are, Sirs, your obedient servants,

C. J. BAKER.	J. LUNN.
T. HOOD.	R. A. BELILIOS.
E. LANGLEY HUNT.	WILLIAM FLETCHER.
RAOUL F. DE BOISSIÈRE.	M. E. O'DEA.
G. IVANHOE LECESNE.	TAYLOR HANCOCK.
AUBREY H. DAVITT.	GEOFFREY HUNGERFORD.
EMMELINE DA CUNHA.	M. CAMERON BLAIR.

London School of Tropical Medicine,
Royal Albert Dock, E., Nov. 22nd, 1902.

*** We have also received a lengthy letter on the above subject from Dr. Louis W. Sambon. The letter was received too late for insertion this week.—ED. L.

DEGREES FOR LONDON MEDICAL STUDENTS.

To the Editors of THE LANCET.

SIRS,—The London diplomates who, quite justifiably I think, ask for facilities for obtaining a degree I believe weaken their own cause and alienate sympathy by constantly affirming, as they do, that the Conjoint examinations are in every respect equal to those required for the Oxford or Cambridge degrees. Of the other provincial degrees I cannot personally speak. Taking my own case (and I believe that there are many who could quote the same experience) I passed the final examination of the Conjoint Board without a single failure, taking two subjects at one examination and one three months later, but on attempting the final M.B., B.Ch. about two months after this qualification, though the intervening time had been spent in steady work, I was "ploughed." I met a similar fate on a second attempt and only succeeded in passing this much longer and more searching examination some 18 months after passing the Conjoint Board, practically the whole of the time between again being spent in steady work. Not only is the examination longer and more searching, but that the standard required is higher is, I think, made evident by the smaller percentage of men passed at the universities. I am by no means selfishly averse to every facility being put in the way of the ambitious diplomate of obtaining a degree which has been honestly worked for and earned, but I must protest, in common justice, against efforts to obtain what is desired by belittling the degrees which have cost many of us so much in time, labour, and money.

I am, Sirs, yours faithfully,

Nov. 21st, 1902. A GRADUATE AND DIPLOMATE.

TYPHOID FEVER AND THE PAIL SYSTEM AT NOTTINGHAM.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

NOTTINGHAM is a bright-looking, handsome town. The atmosphere is clear and comparatively free from smoke, there are fine gardens and open spaces, broad thoroughfares, lofty, even monumental buildings, and to judge from outward appearances this would seem to be at once a prosperous and a healthy centre where much that is ancient and historical mingles with modern industrial developments. A hostile critic might nevertheless be tempted to compare this favourable external aspect to the proverbial whited sepulchre. Such a simile would certainly be exaggerated, but it could be justified at least in one not unimportant particular. It cannot be said that taking the death-rate as a whole Nottingham is an unhealthy town, for it amounted to 18·5 per 1000 in 1901 and this gives Nottingham in the Registrar-General's tables about the middle place among the great towns of England and Wales. But when it is noted that the average number of inhabitants is only 4·5 per house, that the total population does not amount to more than 239,753, and that there is a low birth-rate, something better than this medium result might well have been anticipated. As a matter of fact, there is a weak point, and a very weak point, in the sanitary armour that should protect the town. In regard to drainage Nottingham is altogether behind the age, with the result that typhoid fever is endemic and periodically assumes the epidemic form. Indeed, so serious is this that last year, according to the Registrar-General's returns, the death-rate at Nottingham from typhoid fever amounted to 0·35 per 1000 of the population, and was therefore higher than that of any other town. After Nottingham comes Salford, with a typhoid fever death-rate of 0·33; West Ham, 0·32; Sheffield, 0·31; and Sunderland, 0·29 per 1000. The typhoid fever death-rate of London was 0·12, and that of the most favoured of the large towns 0·10 per 1000; while the average for the 33 large towns was 0·17 per 1000.

The position of Nottingham in regard to typhoid fever would be excusable if these figures were the result of some unexpected outbreak arising from some unsuspected cause. But the reverse is the case. The prevalence of typhoid fever was but a continuation of the previous conditions. There is absolutely nothing unusual about it, and as for the cause, it is well known and has been exposed over and over again with the utmost lucidity and substantiated by a most formidable array of facts and figures. The medical officer of health of Nottingham, Dr. Philip Boobbyer, has repeatedly issued reports, maps, and diagrams to show the intimate relation between the prevalence of typhoid fever and the presence of pail-closets. Indeed, these reports have become well known to sanitary reformers in different parts of the world, but they seem to have had more influence in other towns than in Nottingham. For many years past Dr. Boobbyer has patiently worked out the evidence, case by case, and now and then he has adduced figures ranging over ten years and many thousand cases to prove his contention. Nevertheless, no notice has been taken of these terrible indictments and nothing has been done. A special report was printed by the medical officer of health in 1897 giving all the cases of typhoid fever that had occurred in

Nottingham during the previous ten years and their relation to the method of soil removal prevalent. Three years previously it had been shown that out of 78 towns of Great Britain and Ireland Nottingham possessed a larger relative number of pail-closets than any of these large towns, and excepting Manchester it had a larger actual number. In 1897 there were still 40,225 pail-closets in Nottingham and these were for the most part made of wood. There were only 7200 water-closets and 440 privies. Then, for the ten years 1887 to 1896 the figures were given—namely, the number of houses with pail-closets, the number of cases of typhoid fever occurring in such houses, and the ratio. The same was done in regard to houses with privies and with water-closets. The result is that during the ten years the maximum number of cases occurring in any one year was in 1887, when one case of typhoid fever was recorded for every 97 houses that had pail-closets. The minimum was in 1892 when there was one case for every 218 houses with pail-closets. The proportion of cases was much greater where there were midden-privies, though fortunately there are not many in Nottingham, the maximum being one in 18 houses with midden-privies in 1896 and the minimum one in 59 in 1892. But it is when we look at the figures relating to the houses supplied with water-closets that the lesson conveyed by these figures becomes self-evident. For such houses the maximum number of cases of typhoid fever notified was one case per 280 houses in 1893 and the minimum one case per 795 houses in 1892. Again, and summarising these figures for the ten years, we get one case of typhoid fever for every 120 houses that had pail-closets, one case for every 37 houses with privy middens, and one case for every 558 houses with water-closets. Therefore, there were more than three times as many cases of typhoid fever in houses with privies as in houses with pail-closets and there were four and a half times as many cases of typhoid fever in houses with pail-closets as in houses with water-closets. The same report points out that a large proportion of the few privies remaining in the town are attached to a good class of houses and still the number of cases occurring in such houses increases rather than diminishes. On the other hand, the water-closets are scattered all over the town and are in nowise confined to the more prosperous districts; yet, and wherever situated, the introduction of water-closets insures relative immunity from typhoid fever.

These were the facts brought prominently forward more than four years ago, and these followed upon similar facts made public several years previously and yet to this day nothing has been done. Typhoid fever has continued to prevail in what might be called an endemic form during the earlier portion of the year and in an epidemic form during the autumn or end of the year. One year may be worse or better than the other, but the fever never leaves the town. Thus there were 410 cases notified in 1897, 413 in 1898, 626 in 1899, 501 in 1900, and 520 in 1901. The proportionate prevalence of cases according to whether the houses had privies or pail- or water-closets has continued to point to the same moral as was pointed by the figures given above. Thus during the year 1901 there was one case of typhoid fever in every 84 houses with pail-closets, one in every 12 houses with midden-privies, and one in every 255 houses with water-closets. Apart from repeating telling figures of this description the medical officer of health has added this year to his report a number of spotted maps showing how typhoid fever, though scattered in all directions, prevails principally in certain districts where the spots indicating cases form themselves into regular clusters. These naturally are poor neighbourhoods. No infecting agent, such as water or milk, has been discovered. On the contrary, the districts where there are hardly any cases are supplied with the same water and with milk that often comes from the same dairy as that consumed in parts where there are numerous cases of the fever. But the wooden pail-closet is a distinctive characteristic of the districts where by far the greater number of cases of typhoid fever occur.

In the face of this unimpeachable fact, of this oft-demonstrated and notorious fact, how is it that the immense majority of the inhabitants of Nottingham have no water-closets in their houses? The excessive and endemic prevalence of typhoid fever is evidently connected with the widespread use of wooden pail-closets, and yet these are not abolished. If for the introduction of water-closets it was necessary to construct an elaborate and expensive system of sewers, and, further, to grapple with the difficulty of sewage disposal, then it would easily be understood that delay must arise before such extensive measures could be adopted. But this is not the case. There are sewers all over Nottingham. They exist in the districts where the pail-closets exist and are identical with the sewers of the districts where the houses have water-closets. These sewers converge to the south-east and there is a sewage farm some six miles beyond the town. Here rye grass is grown and so much milk and butter are produced and sold that the disposal of the sewage on this farm only entails a very slight loss. On the other hand, it is not such an easy matter to dispose of the night-soil collected from the box- or pail-closets. Sometimes the farmers will take it as manure, but at other seasons they will not, and then huge accumulations result. One of these depôts of night-soil is near to a district of Nottingham which has specially suffered from typhoid fever. As much as 6000 tons of night-soil have been accumulated here and it has been noticed that during the prevalence of typhoid fever the wind for the greater part of the time blew over this depôt of night-soil towards the district that suffered most from the fever. The question then arose whether the increased prevalence of the fever was due to the season of the year or to the fact that the wind blew from the direction of the depôt of night-soil. There was no such outbreak of typhoid fever in other districts just at the time when there was the greatest accumulation of refuse. It may be said that when a case of typhoid fever is notified special steel bins or pails are provided for the patients. But instead of being carefully removed and the contents burnt it sometimes happens that they are simply emptied in the ordinary pail-closets. This has been done even by the scavengers themselves when short-handed or pressed for time. Therefore the heaps of refuse do occasionally receive, with other filth, dejections direct from typhoid fever patients. In such circumstances it is not surprising that cases of typhoid fever should occur when dust is carried by the wind from such accumulations towards inhabited houses.

The abolition of the pail system is therefore to be recommended if for no other reason than the difficulty actually experienced in disposing of the contents of the pails. Even the argument that manure is preserved for agricultural purposes does not hold good, for the farmers are not always disposed to take it. Also, there are complaints that it is not properly screened, that it is mixed with household refuse, and contains pieces of broken glass or crockery that are very dangerous to the cattle grazing on the land. The cattle cut their feet or swallow injurious foreign and hard bodies, pieces of wire or metal, &c. At Leicester, where the refuse is more carefully screened, it is more readily sold; but then there are very few pail-closets in that town. To screen ordinary house refuse—that is to say, the contents of the dust-bins—is so far an obnoxious process that many towns prefer to burn it in a destructor. But to screen household refuse mixed with the contents of pail-closets would be a much more objectionable process, and yet this would be necessary unless the scavengers can be trusted to separate the two carefully.

It will be seen, therefore, that from every point of view the pail system should be abolished. Apparently the only obstacle is the compensation that the contractors who actually carry out the pail system might claim. They have a somewhat strong case, because it was at the recommendation of the town council itself, approved by the Local Government Board, that they accepted the contract. This, however, is somewhat ancient history, for it occurred in 1868, and since that date progress has been accomplished in respect to such matters. The figures given above show clearly that pail-closets are preferable to the midden-privy closet. The introduction, or rather the more extensive application, of the pail system in 1868 was an improvement on the middens that previously existed, and perhaps in those days the sewer system was not fully developed and fit for the water carriage of all the night-soil. In any case the largest sewer in the town was only completed 17 years ago. Nearly all the sewers at Nottingham are made with the blue Staffordshire bricks that contain a certain amount of iron sulphide and are remarkable for their hardness and slight porosity. Thus an ordinary brick will take up from 13 to 20 per cent. of water, while these blue bricks only take up from 3 to 10 per cent. of water. The greater part of the sewers at Nottingham are large enough for a man to crawl along inside and some are very much bigger. Therefore, the sewers are of sufficient capacity to bear the additional

amount of water which would flow into them if the pail-closets were converted into water-closets. There seems no difficulty in this respect and it is not easy to understand why the pail-closets have been allowed to exist for so long. Respect for an individual contract is not a sufficient excuse for allowing several hundred cases of typhoid fever to occur every year which could clearly be avoided. Recently I described how the pail-closets have been abolished in Leicester,[1] why should not the same be done in Nottingham? There would be the question perhaps of compensating the present contractors who remove the pails but that could not be a very serious matter. The condition of the existing sewers is perhaps a more serious consideration. They are quite as good as those of many other towns where all the houses are provided with water-closets, but here, as elsewhere, the problem of ventilation has not been solved. In some of the best districts of the town complaints are made of the bad odours that escape into the street from the man-hole ventilators. Then, on the higher levels, towards, for instance, the Forest-road, there is a violent up-draught of air from the sewers below. Complaints have been made here also, and consequently a certain number of six by four-inch ventilating shafts have been introduced. The result, however, is not considered satisfactory and there is even some talk of closing up all the street ventilators. Before resorting, however, to so drastic a measure some more systematic experiments in sewer ventilation should be made. That this matter should not have received the fullest attention in a town where so few houses have closets connected with the sewers may be only the natural consequence of such a state of affairs. Now, however, that an alteration is so imperatively necessary, following close upon the conversion of pail-closets into water-closets, the question of the better ventilation of the sewers will have to be taken in hand. This has been the experience of the neighbouring town of Leicester, which has successfully led the way in abolishing these mischievous pail-closets. Nottingham cannot afford to wait any longer.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Liverpool Royal Infirmary: Election of Honorary Assistant Physician; Medical Officer to the Electrical Department; Resignation of the Honorary Organist.

FOR the post of honorary assistant physician, rendered vacant through the promotion of Dr. J. H. Abram, there were four candidates—viz., Dr. John Hay, Dr. A. G. Gullan (physician to the Stanley Hospital), Dr. E. E. Glynn (assistant physician to the Hospital for Consumption and Diseases of the Chest), and Dr. A. S. F. Grünbaum (assistant physician to the Hospital for Consumption and Diseases of the Chest, and Goulstonian lecturer for 1903 at the Royal College of Physicians, formerly Ernest Hart scholar, British Medical Association, and Grocers' Company research scholar). Dr. E. E. Glynn was elected to the vacancy. The successful candidate is the son of Dr. T. R. Glynn, consulting physician to the Royal Infirmary and professor of medicine at University College, Liverpool. Dr. R. J. Ewart, the surgical tutor, has been appointed medical officer in charge of the electrical department.—Much to the regret of the committee and the staff the infirmary is about to lose the services of its honorary organist, Dr. W. E. Livsey, who has held the post, as a labour of love, with universal satisfaction since the new building was opened in 1890.

The Liverpool School of Tropical Medicine: Award of the Nobel Prize to Major Ross, C.B., F.R.S., late I.M.S.

The Nobel prize, of the value of 200 000 francs (£8000), has been awarded to Major R. Ross, the Director of the Liverpool School of Tropical Medicine, in recognition of his valuable investigations into the causes of malarial fever. Major Ross will proceed to Sweden in the course of next month to receive the prize at the hands of King Oscar.

The Royal Southern Hospital.

The Lord Mayor and Lady Mayoress, accompanied by a number of members of the city council, attended Divine service at St. Michael's church on Sunday, Nov. 23rd, on the occasion of the annual sermon on behalf of the Royal Southern Hospital. The annual expenses of the hospital now reach £10,000, while the income from investment, annual subscriptions, and the Hospital Saturday and Sunday Funds barely reaches £6000 and the committee has to rely on other sources to meet the deficiency, which at present stands at £5186. The collection realised £62 15*s.* 1*d.* Subsequently the Lord Mayor and Lady Mayoress paid a visit to the Royal Southern Hospital. They visited all the wards, with the arrangements of which they expressed great pleasure.

Death of Mr. James Hakes, M.R.C.S. Eng., L.S.A.

The death of Mr. James Hakes took place at Latrigg, Aigburth, on Sunday, Nov. 23rd, at the age of 81 years. Mr. Hakes had been in feeble health for some years. He obtained the Membership of the Royal College of Surgeons of England in 1844. He came to Liverpool in 1846 as assistant to the late Mr. Robert Bickersteth, with whom he remained for six years. He was elected honorary surgeon to the Northern Hospital in 1859, which office he resigned in 1869, upon his election as honorary surgeon to the Royal Infirmary. He resigned the latter post in the year 1877, being succeeded by Mr. (now Sir) William Mitchell Banks. Mr. Hakes's name will be remembered in connexion with the Bell-Cox ritualistic prosecution. Mr. Hakes married the daughter of the late Mr. Robert Bickersteth, who died in 1891. He leaves one daughter.

Vaccination Fees in the Prescot Union.

A deputation from the Prescot guardians has succeeded in inducing the Local Government Board to allow the guardians to rearrange their vaccination districts and to modify the minimum fees to be paid for vaccinations. The Local Government Board has expressed its willingness to agree to the vaccination districts being rearranged so that each medical officer can be the vaccination officer in his own district. In regard to the vaccination fees, the Under-Secretary informed the deputation that the Act of Parliament on the subject would not expire for 12 months. Unfortunately for the public vaccinators, certain concessions were secured from the Local Government Board by the deputation to the effect that reduced fees should be paid to them in respect of cases where a number of people in one house or a workshop were vaccinated by them. The report stated that the Local Government Board had given a distinct promise that, whether the Government passed a new law or not, it would make a new Order and the vaccination fees would certainly be reduced. In the light of the recent epidemic of small pox in London, Liverpool, and other large centres, this appears to be a questionable and reactionary policy and calculated to cause a great deal of dissatisfaction among public vaccinators in general. During the first four months of this year the public vaccinators in Liverpool, West Derby, and Toxteth Park were busily engaged in revaccinating a large number of children and adults, which had a considerable effect in minimising the threatened epidemic of small-pox in the city and suburbs.

Nov. 25th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Health of Cardiff.

IN a recently issued report the medical officer of health of Cardiff (Dr. E. Walford) states that during the third quarter of the year five vessels entered the port of Cardiff from plague-infected or suspected ports and that nearly 1500 rats were caught on these vessels and subsequently destroyed. The number of deaths during the quarter due to the principal zymotic diseases was greater than is usual in Cardiff and was equal to 3·5 per 1000 per annum, the death-rate from measles alone being equal to 1·32 per 1000. The epidemic of measles is only now beginning to subside, the number of deaths from this disease in the weeks ending Nov. 8th, 15th, and 22nd having been respectively 20, 22, and 9. During these three weeks the death-rate from all causes in Cardiff was equal to 22 8, 25 6, and 17 per 1000 per annum. It is very rarely that such high death-rates as these have to be recorded.

[1] THE LANCET, Oct. 25th, 1902, p. 1154.

Small-pox in Newport.

It is hoped that the outbreak of small-pox in Newport is at an end. One of the most noticeable and pleasing features in connexion with the outbreak is the readiness with which all contacts have consented to be vaccinated or revaccinated. To this cause is no doubt to agreat extent due the speedy termination of the epidemic.

Bridgend Workhouse.

Allusion has already been made in THE LANCET[1] to the attitude of the Bridgend board of guardians in refusing to carry out the recommendations of the Local Government Board to enlarge the workhouse and the difficulties of the position are now being brought home to that body. As long ago as April of this year there was an excess of 30 in the men's quarters, where temporary beds were placed on the floor, and at the meeting of the board on Nov. 22nd a proposal was made to place beds in the board room and committee-rooms.

Bristol University College.

The annual report of the governors of Bristol University College states that the proportion of students who take systematic courses is constantly increasing. In the last three years the number of day students has more than doubled. The financial portion of the report is not quite so satisfactory, for the expenditure exceeded the income by £700. Two Bristol gentlemen have offered to subscribe £1000 each to the college funds on condition that three similar sums are forthcoming within the year.

Princess Christian Sanatorium, Weymouth.

The Princess Christian Sanatorium and Hospital, Weymouth, was formally opened on Nov. 19th by the Countess of Ilchester in the presence of a large gathering. The sanatorium was founded in 1848 and from small beginnings has become one of the largest hospitals for women in the West of England. The new building is picturesquely situated and has been erected at a cost of £15,000. By the efforts of Dr. J. Macpherson Lawrie, J.P. (honorary secretary), the whole of the funds have been raised for the building, but £2000 are still required for furnishing the institution.

Nov. 25th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Medical Experts in Law Courts.

MR. L. H. ORMSBY, President of the Royal College of Surgeons in Ireland, in a presidential address read at the opening meeting of the surgical section of the Royal Academy of Medicine in Ireland, discussed the causes of the unsatisfactory want of unanimity which prevails so frequently amongst medical witnesses in our courts of justice. The *Irish Times* of Nov. 21st devoted a leading article to the subject and concluded as follows: "We see no reason why there should not be attached to our law courts a permanent medical expert, with assistants if necessary, who would be called in in all cases where damages for personal injuries were claimed, and who would be as it were the medical assessor of the judge." There is a precedent for this course in the Admiralty Court where nautical assessors form an essential part of the tribunal, and the view of the *Irish Times* is one that is taken strongly by many medical men.

The Exit of Students from Ireland to Edinburgh.

Attention has been drawn in the Belfast press to the large number of Irish students at present in Edinburgh. It is said that from Ulster alone there are at the present time over 100 young men in Edinburgh of whom in former years the great majority attended Queen's College, Belfast. When the Royal Commission on University Education met in Belfast last spring special attention was drawn to this extraordinary exodus of Irish students to Scotland. At Queen's College, Belfast, in the session 1878–79 there were 202 students in anatomy; in the session 1900–01 there were 101. In the session 1878–79 there were 287 students in practical anatomy; in the session 1900–01 there were only 119. In the session 1878–79 there were 87 students in medicine, 98 in surgery, and 60 in midwifery; in the session 1900–01 there were 37 in medicine, 40 in surgery, and 37 in midwifery. Figures such as these speak for themselves and from Dublin as well as the south of Ireland students are going to Edinburgh. The time has surely come when the authorities at the Irish medical schools should investigate what are the causes which lead to this extraordinary, and from an Irish point of view most regrettable, state of affairs.

Queen's College, Belfast.

On Nov. 25th the Lord Lieutenant of Ireland and the Countess of Dudley paid a short visit to Queen's College, Belfast, where they were received very cordially by the president, professors, students, and a number of specially invited guests and made a hurried survey of some of the buildings. On Nov. 22nd the students of the college entertained Sir W. Whitla in honour of his knighthood at a smoking concert in the students' union buildings. The professors and the staffs of the various hospitals were also invited.

Cork Hospital Saturday Collection.

A meeting of the Cork Hospital Saturday Committee was held on Nov. 22nd for the purpose of distributing the funds. Mr. James F. McMullen, the honorary secretary, said that he was glad to tell them that the amount collected on Hospital Saturday and also by the Hospital Aid Society had been £1078 11*s.* 9*d.*, which, after the expenses had been deducted, left a balance available for division of £1018. The total amount collected this year in the city was £540 5*s.* 3*d.*, as against £440 last year. Of that sum £516 were available for distribution. A discussion then took place and the following allocations were made: North Infirmary, £105; South Infirmary, £105; Mercy Hospital, £60; Victoria Hospital, £50; Fever Hospital, £50; Eye, Ear and Throat Hospital, £46; St. Patrick's Hospital, £50; Erinville Hospital, £30; and the Cork Maternity, £20. It was announced that the funds collected by the Hospital Aid Society will be distributed on the 29th.

Nov. 25th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Reform in the Competitions for Hospital Appointments.

I HAVE upon sundry previous occasions[1] referred to incidents which recur almost every year on the occasion of the competitions for the much sought after post of physician or of surgeon to the hospitals. The very judges in the competitions as they are at present held have denounced the scandals which occur and that, too, publicly. In the opinion of most people, therefore, the time has come for a radical reformation in the mode of conducting these competitions. The Hospitals Medical Society has for the second time had this matter under consideration and has formulated and presented to the Director of the Assistance Publique a scheme of reform which combines as far as may be the desiderata formulated by the judges in the competition and also those formulated by the candidates. Up to now the examination has been divided into two parts. The first (*épreuve d'admissibilité*) has consisted almost entirely of theoretical questions and the reading of written theses. The second (*épreuve d'admission définitive*) is of an exclusively clinical character, comprising examination of a patient together with a public lecture upon the case and its treatment. It has also been proposed that a third part of the examination should be held which should deal with the professional experiences of the candidate and with his published scientific work. But the decision in such an examination would certainly turn on personal likings on the part of the judges. Moreover, the actual decisive portion of the examination is the *épreuve d'admissibilité*, for this is of an eliminatory nature. As this examination, too, is of a rather theoretical nature it scarcely offers any opportunity to a candidate to distinguish himself in a subject which he knows all about save by a prodigious display of bibliographical knowledge and by quotation of various opinions for or against. Thus the man with a wide book knowledge has a great advantage although his clinical experience may be *nil*. Clinical experience can only manifest its full value in the *épreuve d'admission*, a stage at which but few candidates arrive, since the theoretical *épreuve d'admissibilité*

[1] THE LANCET, Oct. 12th, 1901, p. 1010.

[1] THE LANCET, May 31st, 1902, p. 1568, and July 5th, 1902, p. 48.

is eliminatory. The present system is faulty in many ways, amongst others because it puts out of the running at the very beginning a man whose professional qualities are mainly clinical by giving all the advantage to young men whose memories are freshly stored with book learning. Moreover, it encourages candidates to devote themselves mainly to book learning instead of to clinical and practical work which will be of no use in the examination and, moreover, they may by the expression of original opinions come into conflict with the judges who have already given a contrary opinion on the same points. Inducements to original work amongst the present generation of French medical men are seriously inhibited by the present system, with the result that research work is far less common among them during the early years of professional life, when a lack of patients affords them opportunity for such work, than is the case in Germany, for instance. Further, if a candidate should pass the *épreuve d'admissibilité* and be ploughed in the *épreuve d'admission*, he is not allowed on again going in for the competition to start with the latter portion of the examination, but has to begin again from the beginning. The new scheme proposes that clinical and practical work should form part of the *épreuve d'admissibilité*, also the judges in the first part of the examination should be different from those in the second part. This would be a great step in advance, for if a judge were anxious to favour a candidate he could not do so right through the whole course of the competition. Another proposed reform is that the judges in the *épreuve d'admissibilité* should be divided into two groups which should respectively judge the two written compositions sent up. To make any scheme of reform thoroughly effective a candidate who has passed the *épreuve d'admissibilité* but not the *épreuve d'admission définitive* should be allowed on going up again to commence at the latter stage and not be obliged to begin from the beginning. Against this reform it is argued that such a procedure would rapidly bring about a glut of candidates and that those who have passed the *épreuve d'admissibilité* would rapidly lose their taste for reading if it were no longer necessary for them. The first difficulty might easily be got over by making an age limit for entrance to the competition and by allowing a candidate to try only a definite number of times. As to the loss of taste for reading, although clinical and practical work were still engaged in, this would be rather a sign of progress than otherwise and it must be remembered that it was about the French *concours* that Ehrlich said, "If such existed in his country he would never have been a success." This remark is quoted by Dr. Renaut in an interesting article written by him in the *Presse Médicale*.

The New Buildings of the Academy of Medicine.

On Nov. 25th the new buildings of the Academy of Medicine were opened in the presence of M. Loubet, the President of the Republic. For the last 52 years the Academy has held its meetings in an old chapel in the Rue des Saints Pères attached to the Charity Hospital. The last meeting in this building was held on Nov. 18th. At its foundation in 1821 the Academy met in a private room which was lent by a philanthropist, the then President being Baron Portal. In 1824 the Academy moved to a hospital in the Rue Poitiers and finally moved to the chapel of the Charity Hospital, for the use of which a yearly rent of 5000 francs was paid to the Assistance Publique. It was quite time that a further move should be made, for the chapel was badly lighted, the walls dripped with damp, and the acoustic properties were deplorable. Besides, the ceiling of the library threatened to fall down, while the seating and platform accommodation was quite unworthy of the institution. Five years ago the Academy thought of erecting a new building on a large plot of ground which it possessed near the Observatory. But this site was anything but central and so the Government consented to exchange with the Academy a plot of ground in the Rue Bonaparte. Here was erected the new building which is just opened. The architect, M. Rochet, had no easy task, for the site was very narrow—namely, 47 metres long by 27 metres wide. There was no possibility of making the building project, for the street is narrow, neither could side lighting be had, for the plot is hemmed in on both sides by buildings, one being the École des Beaux Arts, the walls of which are ornamented with terra-cotta mouldings and mosaics, so that the authorities of this school strictly forbade an absolute junction. However, M. Rochet has triumphed over his difficulties. The front of the building is severe and yet graceful. The main entrance with its beautiful forged iron gate is on the right, while the carriage entrance is on the left, and from this a long corridor leads to the stalls connected with the vaccine establishment in the court at the back. The entrance gateway leads into a large hall ornamented with statues of Larrey and of Desgenettes, and from this hall starts the staircase with its wrought copper balustrade. Passing through the hall the visitor comes to a large robing room for the Academicians and a waiting room for vaccination cases. Both of these rooms are well lighted. From the porter's lodge a small lift gives access as well as the staircase to the first floor, on which is situated the Salle des Pas Perdus. This is decorated with busts, paintings, and marble plaques bearing the names of benefactors and of past presidents. From this room a small lobby leads to the large room for meetings. This room is semicircular and is painted in light colours. The desks, which are in the Empire style, are arranged *en échelons* on gradines and there are 55 in all, making, at two places per desk, room for 110 members. The President's platform is at the end of the room upon a raised portion of the floor with the speaker's table in front, the whole being contained in an apsidal recess on the walls of which are inscribed the names of the various commissions and bodies which were the predecessors of the Academy. Such are, for instance, the Royal Commission on Epidemics and Epizoötics (1776), the Royal Academy of Surgery (1731), the Central Vaccination Committee (1809), the Royal Society of Medicine (1778), and the Royal Commission on Secret Remedies and on Mineral Waters (1772). At the sides of the room are two small and somewhat dark spaces for visitors. To the left of the large meeting room are a writing room and library. To the right is the council room, embellished with several fine paintings—amongst others, with a portrait of Vesalius and another of Charpentier. On this floor are also a committee room and a small press room. All round the large meeting room runs a gallery which affords accommodation for a few of the public. On the top floor are rooms for the archives, the librarian, and the staff. In the courtyard are stalls for the calves used for the vaccination service, together with laboratories, but some of the latter are also in the basement. The electrical installation is very complete and there are plenty of hot-air inlets and fire hydrants and hose. The opening was a very impressive function. The President of the Academy, M. Riche, gave a historical retrospect of the various viciseitudes through which the Academy had passed. Year after year the Minister of Public Instruction had inspected the old buildings and had promised that matters should be altered. But one Minister after another had forgotten these promises and it was due to the amassing of a sum of 552,000 francs collected by the Academy in the shape of gifts from members and legacies that the new buildings had been finally achieved. The permanent secretary, M. Jaccond, in an eloquent oration, pronounced a eulogium on the Academy both as regards its past and its future, maintaining that it had always been in the van of scientific progress. M. Chaumié, Minister of Public Instruction, who gave the final address, referred to the fact that though the Academy had been housed in small premises yet it accomplished great things. He referred to the societies which had preceded the Academy, which societies Bonaparte would not allow to take the name of academy, reserving this title for the five sections of the Institute of France founded by him. Finally, M. Loubet, who made no speech, decorated M. Jaccoud with the collar of the Commander of the Legion of Honour.

Nov. 25th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Arrest of Christian Scientists.

AT White Plains, near New York City, a child aged seven years died recently from diphtheria who had been treated by no one but a Christian Scientist. John Lathrop, the faith-healer in question, gave evidence before the coroner as to his methods of treatment. After he had given his testimony he and the father and mother of the dead child were held for the grand jury charged with manslaughter in the second degree, under Section 193 of the Penal Code, which is designed to meet culpable neglect in failing to provide proper care and attention for a child. The penalty may be as much as 15 years' imprisonment or $1000 (£200) fine or both. The county authorities brought the case at once before the grand jury, this being the first time that Christian

Scientists have been charged with manslaughter. On previous occasions the charge has been of illegal practice of medicine, this offence being only a misdemeanour. Indictments were found by the Westchester County Grand Jury against the father and mother of the child and the "healer." These persons have now been indicted for manslaughter in the second degree, which reads thus in the Penal Code:—"Such homicide is manslaughter in the second degree when committed without a design to effect death either by any act, procurement, or culpable negligence of any person, which according to the provisions of this chapter does not constitute the crime of murder in the first degree nor manslaughter in the first degree." The case is being watched by legal representatives of the New York County Medical Society, as it is practically a test case, and if carried to a successful issue will probably be followed by similar action in New York. Up to the present time all actions against Christian Scientists have failed in New York State. The contempt of quarantine laws exhibited by the defendants has moved the inhabitants of White Plains more than anything and will go far to bring about an adverse decision against the Christian Scientists. The risk which these mischievous idiots inflict upon their neighbours is now becoming obvious.

Bacteria in the Streets of New York.

The Commissioner of Street Cleaning of New York is a well-known medical man, Dr. John McG. Woodbury, who has shown himself since his appointment to that office perhaps the most energetic and efficient member of Mayor Low's administration. The work of the street-cleaning department has been of late exceptionally heavy. New buildings are being erected in all parts of the city and in consequence dust and dirt are greatly in evidence. Dr. Woodbury a short time ago began a series of investigations with the aid of other scientific men to determine the nature and number of micro-organisms in the air of New York streets, in order to afford an object-lesson on the connexion of clean streets and the healthfulness of neighbourhoods. The result of the investigations was that bacteria were found in very large numbers in the tenement districts on the east side, while the clean residential streets were comparatively free from germs.

To Regulate Immigration into the United States.

The Commissioner-General of Immigration has recently issued his annual report which shows that of the 649,743 immigrants who were landed in the United States during the past year, 466,369 were males and 183,374 were females. Of this number 178,375 came from Italy, an increase of 42,379 over the number for 1901. Austria-Hungary supplied 171,989, an increase of 22,090. The majority of the European countries showed an increase, while there was a falling off in the arrivals from Ireland amounting to 1423. The total number of aliens not permitted to land was 4974. Of these 3944 were paupers, 709 had loathsome diseases, nine were convicts, and 275 were contract labourers. Mr. Sargent, the Commissioner-General, says, with regard to the introduction of diseased persons into the country: "The increase of immigration has not been quite one-third over that of 1901, but the comparative increase of diseased aliens for the same period has been more than two to one. The same races which exhibited the largest number of diseased persons last year maintain their pre-eminence in this respect for the year under consideration. These figures show conclusively the necessity for legislation, which shall inflict upon transportation lines, which have the means of protecting themselves from the effect of a violation of the law by competent medical inspection at the port of foreign embarkation, a penalty proportional to the gravity of the risk to the health of the American people for bringing diseased aliens to ports of this country." The present penalty is the mere return of the diseased alien at the cost of the offending line. A Bill is now pending on the immigration question and Mr. Sargent thinks that a stringent provision with regard to diseased aliens should be incorporated in it.

Proposed Union of the New York State Medical Societies.

It was proposed some time ago that the New York State Medical Society and the New York State Medical Association should unite. At the annual meeting in New York of the latter body on Oct. 20th the following resolution, among others, was passed:—

That the plan presented at the joint sessions of the two committees whereby "the New York State Medical Association and the Medical Society of the State of New York be reconstituted by an Act of the Legislature into a State medical body, to be known as the Medical Society of the State of New York, of which all members in good standing in both bodies shall be charter members, and the reconstituted State medical body shall be the representative in this State of the American Medical Association by virtue of its acceptance of the constitution and by-laws of the American Medical Association," is hereby accepted by the New York State Medical Association as an expression of our sincere desire for a union of the medical profession of the State.

The Medical Society of the State of New York—the oldest and most important medical society in the country—has held aloof from the American Medical Association on account of somewhat cavalier treatment at the hands of the last-mentioned body. It is, however, thought that the time has come to forget old scores, and the union of the New York State societies would be the final healing of the breach. The New York State Medical Association has recently made important changes in its by-laws. One of these imposes on the council the duty of defending, in its discretion, the members of the New York State Medical Association in suits for alleged malpractice. The plan of associated defence is that which has already been put into operation by the New York County Medical Association, and is as follows:—

1. The council shall, upon request and compliance with the conditions hereinafter provided, assume the defence of suits for alleged malpractice brought against members of the association. 2. The council shall not undertake the defence of any suit based upon acts prior to the qualification of the accused as a member of the association. 3. A member desiring to avail himself of the provisions of this article shall make application to the council through the secretary, shall sign a contract renouncing his own and vesting in the council sole authority to conduct the defence of said suit or to settle by compromise, and shall make such other agreements as the council may require. 4. The council shall thereupon contract with said applicant to take full charge of said suit, to furnish all necessary legal services, to pay all necessary expenses, and not to compromise said suit without consent of the accused, but the council shall not obligate the association to the payment of any damages awarded by decree of Court or upon compromise.

Nov. 17th.

Obituary.

CHARLES WILLIAM CHUBB, M.R.C.S. ENG., L.S.A.

MR. CHUBB died at his residence, Torpoint, Cornwall, on Nov. 17th, in his eighty-third year. The deceased received his medical education at St. George's Hospital and became qualified as M.R.C.S. Eng. and L.S.A. in 1842. In the same year he commenced practice in Torpoint and did not retire until 1897. He was formerly surgeon to the St. Germans Workhouse. When cholera broke out in the town in 1849 Mr. Chubb worked single-handed, and again in 1886 and 1887, when Torpoint suffered from a severe epidemic of enteric fever, Mr. Chubb's self-sacrificing efforts on behalf of the sufferers were most praiseworthy. His energy and kindness during these epidemics won the admiration of all, and when he retired from his profession the inhabitants, to show their appreciation of his valuable services, presented him with an illuminated address and a silver tea urn and salver. During his long career Mr. Chubb identified himself with all movements for the good of Torpoint. He was a staunch Churchman and it was through his instrumentality when he was vicar's warden that the chancel of the parish church was built. The deceased leaves five sons, one of whom is a member of the medical profession. Mr. Chubb will be much missed in Torpoint, especially amongst the poor, to whom he was always a kind and sympathetic friend.

FRANCESCO OCCHINI.

THE metropolitan school in Rome has sustained a severe loss by the death on Nov. 19th of Dr. Francesco Occhini, who for many years held the chair of Surgical Anatomy and Operative Surgery with ever-increasing acceptance and popularity. Born in Tuscany in the province of Arezzo on Sept. 27th, 1843, his early studies were prosecuted in Rome, whence he followed up his medical curriculum at the University of Pisa, where he graduated with much distinction, obtaining among other prizes the gold medal for clinical proficiency. He entered the navy as volunteer surgeon during the war of 1866 and was present at the sea-fight at Lissa, serving on board the ironclad *San Martino*. When peace was declared by Austria's cession of Venetia young Occhini repaired to the Florentine school, where he taught clinical surgery with such conspicuous success that he was taken to Rome by

Signor Bruschi, president of the Accademia dei Lincei (the Royal Society of Italy) in 1870—the year in which Italian unity was completed by the downfall of the Temporal Power. There he rapidly rose to distinction, not only as a teacher, but as a consultant and became known throughout Italy for the soundness of his opinions and success of his operations. A trusted assessor in State medicine, he was appointed vice-president of the Consiglio Superiore di Sanità and as a mark of the esteem in which he was held by his Italian colleagues he was elected vice-president of the Società Italiana di Chirurgia. From his pen came the treatises, "Sulla Fistola Vesico-vaginaria," "Sull' Antipirina," "Sulla Rottura della Rotola," "Sull' Emorragia dei Neonati," and the highly popular text book, Trattato della Medicina Operatoria. In professional as in social intercourse he had a singularly winning address and, while uncompromising in his assertion of the dignity of the medical man, he impressed all with whom he came in contact by his modesty, his frankness, his readiness to assist, and his chivalrous abnegation of self. Not many consultants in Italy of late years have been lost to the profession amid such widespread manifestations of regret—the public funeral that followed his remains to the Campo Verano testifying of itself to the unique place he held in the esteem of his colleagues and his compatriots of every calling and degree.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

TUESDAY, NOV. 25TH.

THE seventy-fifth session of the General Council of Medical Education and Registration was opened to-day in the hall of the Council, Oxford-street, London. All the 31 members of the Council were in attendance and the PRESIDENT (Sir WILLIAM TURNER, K.C.B.) occupied the chair.

The Re-election of Sir Victor Horsley.

The REGISTRAR (Mr ALLEN) read the notification of the election of Sir Victor Horsley as a Direct Representative for England for five years from Oct. 16th, 1902.

The President's Address.

The PRESIDENT then delivered his address. He said:—No change has occurred in the *personnel* of the Council since our last meeting. Sir Victor Horsley has been re-elected as a direct representative and we welcome his reappearance amongst us and congratulate him on having received the distinction of Knighthood. By the passing, on July 31st, of an Act to secure the better training of midwives and to regulate their practice statutory recognition has been given in England and Wales to an order of obstetric practitioners who have not hitherto had a legal position and title, and I propose briefly to ask your attention to certain of its provisions. This is not an Act for the registration of midwives nor for granting to them licences to practise. It expressly prohibits midwives as such from claiming any right or title to be registered under the Medical Acts and from assuming any name, title, or designation implying that they are by law recognised as medical practitioners, or that they are authorised to grant any medical certificate, or any certificate of death or of still-birth, and from undertaking the charge of cases of abnormality or disease in connexion with parturition. On the other hand, it makes provision for the creation of a class of certificated midwives, the certificates to be conferred after a course of training and the passing an examination, approved of by the Midwives Board, and enacts that those who have been certified under this Act shall be entitled to have their names entered on an official Roll of Midwives. It makes it penal after April 1st, 1905, for any woman to take or to use the name or title of midwife or to state that she is recognised by law as a midwife, unless she is duly certified under the Act; while from and after April 1st, 1910, it will be penal for any woman habitually and for gain to attend women in childbirth, otherwise than under the direction of a qualified medical practitioner, unless she is duly certified under the Act. For the purpose of creating machinery for regulating the issue of certificates and of determining the conditions of admission to the Roll of Midwives, the course of training, the appointment of examiners, the publication of a Roll of certified Midwives, and other relative duties, the Lord President of the Privy Council is empowered to procure the formation of a Central Midwives Board, which shall consist partly of registered medical practitioners and partly of persons appointed by the Lord President himself and by certain corporate or chartered bodies. This board, I understand, is now fully constituted.[1] Certified midwives shall be placed under the local supervising authority of the council of a county or county borough within the area in which they are engaged in practice, and any expenses under the Act payable by the council of a county or county borough shall be payable out of the funds at the disposal of such county or borough. The General Medical Council is to take no part in the formation and administration of the Central Midwives Board, and its duty under the Act is restricted to that of making representations with respect to the rules framed by the Central Midwives Board, before these rules are approved by the Privy Council. Section 17 of the Act states that it shall not extend to Scotland or Ireland, and that the General Medical Council shall act by the English Branch Council, which for all the purposes of this Act shall occupy the place of the General Medical Council. So far, therefore, as the Council is concerned the midwives question, which for so many years has occupied much of our time and attention, need no longer find a place in our programme of business or in our minutes.

[The PRESIDENT then pointed out that the departure made by their conferring independent action upon the English Branch, which would call for special expenses to be borne by that Branch, would in his opinion necessitate the reconsideration of the question of recommending to Parliament the suppression of the Branch funds and the institution of a common purse. He continued:]

It is, I have no doubt, within the knowledge of members of the Council that each of the constituent provinces of the Dominion of Canada has, as regards regulations affecting medical practice, been independent of its neighbours, so that a qualification granted in one province has not empowered the person holding it to practise in the other provinces. During the last few years leading members of our profession in Canada have had under consideration the advisability of doing away with such inter-provincial restrictions and of obtaining a Medical Act applicable to the whole Dominion, and framed generally on lines similar to our Act of 1858, which granted equal rights to practise in the three divisions of the United Kingdom to holders of qualifications obtained in any one of them. On May 15th of this year, by and with the advice and consent of the Senate and House of Commons of Canada, His Majesty enacted the Canada Medical Act, 1902, under which a Medical Council of Canada is constituted. The leading purposes of this Council are to establish a qualification such that the holders thereof shall be empowered to practise in all the provinces of Canada; to establish and to maintain a board to examine and grant certificates of qualification; to establish a Canadian register of medical practitioners; and to determine and to fix the conditions and qualifications necessary for registration. But the Act also contains sections which have a special interest to the Medical Council of the United Kingdom and make it advisable that I should draw your attention to them. Under Section 4 (*e*) the Canadian Medical Council is empowered to establish such a status of the medical practitioners in Canada as shall insure recognition thereof in the United Kingdom and enable Canadian practitioners to acquire the right to registration under the Medical Acts of the Imperial Parliament. In order that this purpose of the Canadian Medical Act may become operative the Canadian Medical Council may make regulations (Section 10), so that licences granted by any British, Canadian, Colonial, or foreign licensing body or authority can be recognised; also to arrange for a scheme of reciprocity as to registration with any of such licensing bodies or authorities; also the terms and conditions upon which medical practitioners duly registered or licensed under the Medical Acts of the United Kingdom or under the laws of such British possessions or foreign countries as extend reciprocal advantages to Canada shall be entitled to registration in Canada. The regulations under this section of the Canadian Medical

[1] The *personnel* of the board was given in THE LANCET, Nov. 22nd 1902, p. 1411.

Act do not take effect until they have been approved by the Governor in Council. When these provisions of the Canadian Act have been complied with, Part II. of the Medical Act of 1886 would become applicable to Canada, should it appear to His Majesty in Council that Canada affords to the registered medical practitioners of the United Kingdom such privileges of practising as to His Majesty may seem just. Canada would thus be placed on the same footing as India, Malta, and the sister colonies of New Zealand and Australia, and another step would be taken in the consolidation of the British Empire. As a further indication of the activity displayed in the colonies in the establishment of medical boards, and in the recognition of the right to practise by those whose names are on the Medical Register of the United Kingdom, I may state that the Administrator of the Orange River Colony has issued a proclamation similar in its terms to that issued early in the year for the Transvaal (Minutes of Executive Committee, p. 123, vol. xxxix.).

[The President then made a statement concerning the inspection during the year of the final examinations of the English universities and of certain medical and surgical laboratories and of the examinations in chemistry, physics, and biology of the Conjoint Board of the Royal Colleges in London, saying that for the most part the reports of the visitors and inspectors had been received. He continued:]

The Education Committee will present a report on the results obtained by raising the standard of the Preliminary Examinations conducted by the College of Preceptors in England, the Educational Institute of Scotland, and the Conjoint Board of the Royal Colleges of Physicians and Surgeons in Dublin. The same committee will also report as to the answer given by it to the British Medical Association on the questions appertaining to preliminary education raised by the deputation of members of that Association which was received by the Education Committee on behalf of the Council during the May meeting. The proceedings of the International Conference for the unification of the pharmacopœial formulæ of potent drugs and preparations, held at Brussels from Sept. 15th to 20th of the present year, have been reported on by the chairman of the Pharmacopœia Committee who, by the authority of the Council, was nominated as a delegate thereto (Minutes, vol. xxix., 1902, p. 134). 18 European Governments and the United States of America were represented by specially appointed delegates, the British representatives being Dr. MacAlister, nominated by the Council, and Surgeon-Lieutenant-Colonel Reid, nominated by the Government of India. Certain important conclusions were unanimously adopted, with the object of eliminating, by means of an international agreement, the dangers to life and health arising from the wide differences which exist in the various national pharmacopœias as regards the potency and strength of dangerous drugs called by the same or similar names. It was further resolved to request the Belgian Government, which has so laudably interested itself in this question, to establish in Brussels an international bureau of information and intercommunication with the purpose of promoting uniformity of action among the authorities which control the pharmacopœias of the countries represented at the Conference. Dr. MacAlister's report will naturally be referred to the Pharmacopœia Committee for consideration; meanwhile he has received from the Lord President of the Privy Council an expression of thanks for his services as the representative of the British Government. The payments by the Council to the Alliance Insurance Company towards a sinking fund for the redemption of the purchase price of the Council's offices and other property have now ceased and the company has repaid the sum of £408 16s., being a proportion of the annual payments for three years.

Dr. D. MACALISTER, seconded by Mr. T. BRYANT, moved that the thanks of the Council be given to the President for his address and that he be requested to allow it to be printed in the minutes.

Dr. D. C. MCVAIL said that the special thanks of the Council were due to the President for calling their attention to the fact that for the first time in connexion with any professional legislation appertaining to medicine it was made penal for anyone to practise for gain who was not registered. This had reference to the register for midwives. They knew in this Council that this originated with Dr. MacAlister who deserved great credit for having raised the point and they also knew that it was owing to the efforts of Dr. MacAlister and the President that after the provision had been struck out it was inserted again almost at the last moment and became law. It was a very important matter and they could only hope that before long it might find a place in an amendment of the Medical Acts.

The motion was cordially adopted by the Council.

Naval and Indian Medical Service Examinations.

The Registrar presented tables showing the results of certain examinations for commissions in the medical staff of the Royal Navy and the Indian Medical Service.

On the motion of Dr. HERON WATSON the Council resolved to thank the officials who had supplied the information for the tables.

Mr. G. BROWN said that it was gratifying to find that there had been no rejections on account of deficiency in writing and spelling.

Dental Business.

On the motion of Dr. MACALISTER it was agreed to receive and to enter on the minutes the following report from the Executive Committee on the dental business transacted by it since the May session of the Council:—

(1) The prescribed conditions having been duly fulfilled in each case, the names of the undermentioned persons have been restored to the Dentists Register, from which they had been erased in conformity with the provisions of Section 12 of the Dentists Act, 1878: Alfred G. Annette Henry W. Edmondson, Frederick J. Lea, and Francis Watts. (2) The committee considered a communication from Dr. John Smith, chairman of the Dental Diploma Committee of the Royal College of Surgeons of Edinburgh, in regard to the *ad eundem* admission to British dental qualifications of foreign and colonial dentists, and referred the communication, together with a further letter of the 21st, to the Dental Education and Examination Committee with a request that they would consider the subject and report during the present session. (3) The committee considered an application from Mr. Jacob B. Lewin, B.A., D.D.S. Penna., an American citizen, registered in the Cape Colony by virtue of certain testimonials as to his professional character and ability, that he might be registered either as a foreign or colonial dentist under the provisions of Sections 8-10 of the Dentists Act. The Committee referred this application to the Dental Education and Examination Committee for consideration and report to the Council.

Restoration to the Medical Register.

During the remainder of the sitting, which was prolonged half an hour beyond the time previously fixed for adjournment for the day, the Council was engaged *in camerâ* in considering a report from the Executive Committee in regard to certain applications for the restoration to the Medical Register of names removed under Section 29 of the Medical Act, 1858. No announcement was made as to the result of its private deliberations.

WEDNESDAY, NOV. 26TH.

The Council resumed its session to-day, Sir WILLIAM TURNER, the President, being in the chair.

The Council and the Midwives Act.

Sir VICTOR HORSLEY said that he wished to correct a statement made on Tuesday by Dr. McVail with reference to the penal clause in the Midwives Act. Dr. McVail stated that this clause, which gave the Act a sense of reality and not that of a sham, was due to the officials of the General Medical Council by their interest and work when the measure came before the House of Lords. Now, as a matter of fact, the clause was drafted by the British Medical Association six years ago. It was brought by the British Medical Association under the notice of the promoters of the Bill and they embodied it in their Bill of 1901. They left it out of the Bill of 1902 and when they introduced the measure into the House of Commons the British Medical Association through its committees brought the matter forward and by the assistance of Mr. T. P. O'Connor and Mr. Ambrose procured the insertion of the clause in the Bill while it was passing through the House of Commons. He made that statement as a matter of historical accuracy and because he thought it was due to the British Medical Association that it should be recognised that that combination of medical practitioners was the instrument by which the Bill was perfected.

Dr. MCVAIL said that his statement on the previous day had reference to what the Council did. What the British Medical Association did in the matter he was not very cognisant with. Some two or three years ago, in the Council, Dr. MacAlister laid before them a number of most important points, and this matter was one of them. There was no claim then that anybody else had ever formally or publicly suggested the change which Dr. MacAlister put forward among his other points. What he said was not meant in any shape or form to imply that no others in the profession had taken an interest in this matter or that others

had refrained from using endeavours to have the clause passed. But he stated what was within his knowledge—namely, that two members of the Council, the President and Dr. MacAlister, had taken an extremely important part, and he expressed the opinion, which he continued to hold, that but for their action the matter would not have been given effect to. That was the point of his statement.

Sir VICTOR HORSLEY, by way of further explanation, said that Dr. McVail must have forgotten what took place in the Council. This penal clause question was never brought before the Council until the report of the Midwives Bill Committee was presented on April 5th, 1898, and Dr. MacAlister's remarks were founded entirely upon that report.

Mr. BROWN was about to address the Council, when

The PRESIDENT said that he must regard the incident as closed.

Penal Cases.

The Council then proceeded to deal with certain penal cases, as a result of which the name of one practitioner, convicted of felony, was removed from the Register; the case of another, found guilty of practising a system of extensive advertisement, was adjourned till next session, the practitioner being warned to be of good behaviour during the period of probation; while the name of a third, convicted recently upon very doubtful evidence of manslaughter, was permitted to remain upon the professional roll.

THURSDAY, NOV. 27TH.

The Council resumed the consideration of penal cases. A report of the proceedings will appear next week.

Medical News.

UNIVERSITY OF LONDON.—At the M.B. Examination held in October the following candidates were successful:—

First Division.—Ernest Rock Carling, Westminster Hospital; Charles Ernest Lakin, Middlesex Hospital; Charles Seymour Parker, University College; Robert Pugh Rowlands and Frederick Edward Walker, Guy's Hospital; and Moses Thomas Williams, London Hospital.

Second Division.—Kenneth Anderson, Guy's Hospital; Austin Lewis Babcock, Charing Cross Hospital; Frank Barnes, Birmingham University and Queen's and General Hospitals; Eric Bayley, Charing Cross Hospital and Rotunda Hospital, Dublin; Hanway Richard Beale, St. Thomas's Hospital; Alexander Clarke Begg, University of Edinburgh and Royal College of Surgeons, Edinburgh; Edward Augustine Bell, King's College; John Hay Burgess, St. Mary's Hospital; Mildred Mabel Burgess, London (Royal Free Hospital) School of Medicine for Women and the New Hospital for Women; Joseph Barnes Burt, University College; Alexander Cameron, Middlesex Hospital; Percy William Leopold Camps, Guy's Hospital; Frederick Charles Carlé, King's College; Marcus Woolf Cohen, B.A., and Michael Abdy Collins, Guy's Hospital; James Alane Coupland, Yorkshire College and General Infirmary, Leeds; William Thomson Crawford, University College; William Collings Dawson, Birmingham University and General Hospital; Lucian A. E. De Zilwa, B.Sc., University College and École de Médicine, Paris; Walter Robert Dunstan and Reginald Anthony Eastmond, London Hospital; Reginald Cheyne Elmslie, St. Bartholomew's Hospital; George Evans, Guy's Hospital; Henry Tregelles Gillett, St. Bartholomew's Hospital; William Gillitt, Middlesex Hospital; Friedrich Grone, St. Bartholomew's Hospital Charles Edward Ham, London Hospital; Somerville Hastings, Middlesex Hospital; Andrew Ferguson Horn, University College; Gerald Stephen Hughes, Middlesex Hospital; Edward Cecil Brearey Ibotson, Guy's Hospital; Ethel Florence Irestell, B.A., London (Royal Free Hospital) School of Medicine for Women; Harold Ashton Lyth, University College; Grese Edmund Malcomson, Owens College and Guy's Hospital; Edward Lister Martin, St. Bartholomew's Hospital; Thomas Arnold Matthews, Guy's Hospital; Helen Moore and M. Eva Hastings Morris, London (Royal Free Hospital) School of Medicine for Women; William John Morrish and Arthur Cyril Motta, St. Mary's Hospital; Wilfrid George Mumford, Guy's Hospital; Mabel Habden Naylor, London (Royal Free Hospital) School of Medicine for Women; Sidney James Ormond, Guy's Hospital; Harold Edward Ridewood, London Hospital; Carrick Hey Robertson, Guy's Hospital; George Struan Robertson, Guy's Hospital; Cecil William Rowntree, Middlesex Hospital; Frank B. Skerrett, B.S., St. Thomas's Hospital; Enid Marian Smith, London (Royal Free Hospital) School of Medicine for Women; Hugh B. Willoughby Smith, Yorkshire College and London Hospital; Christopher Thackray, Owens College; Frank Leslie Thomas, Guy's Hospital; Frederick George Thompson, St. Mary's Hospital; Winifred Thorp, London (Royal Free Hospital) School of Medicine for Women; Noel Everard Waterfield, Herbert Victor Wenham, and Ernest Wetherell, St. Bartholomew's Hospital; Winefred F. Wigglesworth, London (Royal Free Hospital) School of Medicine for Women; Edward Allan Wilson, Yorkshire College and General Infirmary, Leeds.

N.B.—The foregoing list, published for the convenience of candidates, is provisional only and is not final until the reports of the examiners shall have been confirmed by the Senate.

SOCIETY OF APOTHECARIES OF LONDON.—In November the following candidates passed in the subjects indicated:—

Surgery.—A. E. Bird (Sections I. and II.), Manchester; G. M. Crockett (Sections I. and II.), Royal Free Hospital; B. M. Dunstan (Section II.), St. Thomas's Hospital; L. Ettinger, New York; G. R. Hannon, King's College Hospital; R. J. O. Harley, McGill; L. J. A. Marry, Paris; and J. P. Nettell (Section I.), London Hospital.

Medicine.—A. E. Bird (Section I.), Manchester; T. S. Davies, St. George's Hospital; H. B. Drake (Section I.), St. George's Hospital; O. Gutermann, Berlin and Rostock; R. J. O. Harley, McGill; W. Martin (Sections I. and II.), St. George's Hospital; L. J. A. Marry, Paris; and C. C. Rushton (Section I.), University College Hospital.

Forensic Medicine.—F. G. Bennett, University College Hospital; A. E. Bird, Manchester; H. B. Drake, St. George's Hospital; L. Ettinger, New York; I. Griffith, London Hospital; O. Gutermann, Berlin and Rostock; W. Martin, St. George's Hospital; L. J. A. Marry, Paris; C. C. Rushton, University College Hospital; and L. S. Shoosmith, St. Mary's Hospital.

Midwifery.—J. Bromley, Guy's Hospital; J. D. Keir, St. Mary's Hospital; L. H. Lewis, Guy's and Middlesex Hospital; G. Lucas, Cambridge and St. George's Hospital; L. J. A. Marry, Paris; E. H. Price, Birmingham; and H. Smith, Sheffield.

The diploma of the Society was granted to the following candidates entitling them to practise medicine, surgery, and midwifery: F. G. Bennett, I. Griffith, and L. J. A. Marry.

TRINITY COLLEGE, DUBLIN.—At the Final Examination at Michaelmas the following gentlemen passed:—

Section A.—Thomas J. T. Wilmot, Herbert St. M. Carter, Gerrard A. Crowley, Winslow S. S Berry, Henry E. M'Cready, Thomas Wilson, Arthur W. Goldsmith, and Reginald W. T. Clampett.

Surgery.—John H. Torney, Thompson F. Wilson, Maurice Fitz-Gibbon, Charles A. Stone Anthony H. Corley, James M'Cutcheon, William P. Ringland, Thomas W. Crowley, William Leggett, James E Johnstone, Henry B. Kelly, Nicholas M. Cummins, and Charles Rolleston.

ROYAL COLLEGE OF SURGEONS IN IRELAND: FELLOWSHIP EXAMINATION.—The following candidates having passed the necessary examinations have been admitted Fellows of the College:—Mr. F. J. S. Heaney, Mr. G. S. L'Estrange, Mr. C. F. Marks, Miss M. S. P. Strangman, and Miss M. Thorne.

WEST SUFFOLK HOSPITAL, BURY ST. EDMUNDS.—Mr. A. Pearce Gould, surgeon to the Middlesex Hospital, London, recently opened the new operating-theatre and nurses' quarters at the West Suffolk Hospital, Bury St. Edmunds.

MUNICIPAL ELECTIONS.—Mr. J. A. Rawlings, M.R.C.P. Edin., M.R.C.S. Eng., has been returned for the St. Helen's ward, Swansea. Mr. J. Lloyd Davies, L.R.C.P. Lond., M.R.C.S. Eng., has been returned for the Victoria ward, Newport, Mon. Mr. R. Davies, M.D. Edin., M.R.C.S. Eng., L.R.C.P. Lond., has been elected a member of the Cheltenham town council.

UNIVERSITY OF CAMBRIDGE.—The general board of studies proposes that two additional demonstrators of human anatomy should be appointed.—The State Medicine syndicate has revised the conditions of admission to the D.P.H. examination in accordance with the new rules of the General Medical Council. In April and October of 1902 90 candidates were admitted to the examination; 52 were successful in obtaining the diploma. The syndicate has made a second grant of £1000 towards the new buildings of the medical school, in which teaching and examinations in sanitary science are to be provided for.—At the Congregation on Nov. 20th R. W. Wakefield, Trinity, and A. Whitmore, Caius, were admitted to the degree of M.B., and J. W. Pettinger, Selwyn Hostel, to the degrees of M.B. and B.C.

GLASGOW SOUTHERN MEDICAL SOCIETY.—On the evening of Nov. 13th Dr. John Macintyre met the members of this society in the large lecture room of the Glasgow Royal Infirmary. There was a good attendance of members present. After a rapid sketch of the electrical installation of the hospital Dr. Macintyre dwelt briefly upon the nature of the apparatus contained in the four rooms of the newly appointed pavilion, and thereafter led the members through these rooms where all were highly pleased with the variety and nature of the apparatus provided for the diagnosis and treatment of disease. Of special interest were the large Wimshurst machine used for the generation of static electricity, the powerful electro-magnet, and a beautiful series of instruments for the diagnosing of affections of the various cavities of the body. In addition Dr. Macintyre showed some very interesting lantern slides and the collection of stereoscopic and other photographs was much admired.

Altogether this was a most successful and interesting evening and Dr. Macintyre and the directors of the Royal Infirmary were cordially thanked for the kindness shown to the members of the society.

FREEMASONRY.—*Cheselden Lodge, No. 2870.*—The installation meeting of this Lodge was held at the Trocadéro, Piccadilly-circus, London, W., on Friday, Nov. 21st, when a large number of brethren and visitors were present, the latter including R.W. Bro. J. Daly, District Grand Master of British Guiana, V.W. Bro. H. F. Manisty, K.C., Dep. G. Registrar, W. Bro. Woodhouse Braine, F.R.C.S., P.G.D. (hon. member), and other grand officers. The Worshipful Master, on behalf of the founders, presented to the Lodge a beautiful set of tracing-boards painted by Bro. John Cooke. W. Bro. G. Crawford Thomson, M.D., was then installed by his predecessor, W. Bro. Thomas Wakley, jun., J.G.D., as Worshipful Master. The following gentlemen were then initiated into Freemasonry by the new W.M.:—Mr. H. M. Robson, M.R.C.S., L.R.C.P., Mr. Stanley Wellby, M.B., B.Ch. Oxon., Mr. Harold Douglas Singer, M.D. Lond., and Mr. Æmilius Cyril Birt, medical student. The brethren and their guests, to the number of some 60, then adjourned to a banquet and a very pleasant evening was enjoyed. In the course of the proceedings a Past Master's jewel of artistic design was presented to the retiring Master, Bro. Wakley. The following are the newly appointed officers: Bro. W. S. Colman, S.W.; Bro. Charles R. Box, J.W.; Bro. the Rev. Gilbert Weigall, chaplain; Bro. Sydney Phillips, treasurer; Bro. T. G. Nicholson, secretary; Bro. H. C. Crouch, assistant secretary; W. Bro. L. A. Bidwell, S.D.; W. Bro. H. J. Prangley, J.D.; V. W. Bro. W. Vaughan Morgan, P. G. Treasurer, D.C.; W. Bro. William Duncan, Assistant D.C.; Bro. W. J. Sheppard, organist; W. Bro. W. H. L. Copeland, I.G.; W. Bro. S. M. Copeman and Bro. C. Whitehall Cooke, stewards.—*Middlesex Hospital Lodge, No. 2843.* An emergent meeting of this lodge was held at the Freemasons' Hall, Great Queen-street, London, W.C., on Thursday, Nov. 20th, W. Bro. William Duncan, M.D., W.M., being in the chair. Bro. Walter Gifford Nash was admitted to the third degree and Bros. J. W. Glenton-Myler, Percy Noble, and G. H. A. Comyns-Berkeley to the second degree. The brethren and their visitors subsequently dined together.

ROYAL DENTAL HOSPITAL OF LONDON.—The staff and past and present students of the Royal Dental Hospital of London held their annual dinner on Nov. 22nd in the Whitehall Rooms of the Hôtel Métropole, London, Mr. A. W. W. Baker being in the chair. After the usual loyal toasts had been honoured Mr. Baker proposed the toast of "The Past and Present Students." He said that they all had reason to be proud of the Royal Dental Hospital. The greatest achievement, however, was in his opinion that of placing the hospital in the position of being a model for other dental hospitals. If anyone wanted to know what had been done by the past and present students of the Royal Dental Hospital of London he would advise him to repair to Leicester-square and to remember the quotation "*Si monumentum requiris, circumspice.*" This toast was replied to by Mr. Rees Price on behalf of the past students and by Mr. J. W. Hele on behalf of the present students. Mr. Hele said that the excellence of the work done for the students at the hospital ought not to blind them to the fact that perfection had not yet been reached. Two years at the hospital were not sufficient to guarantee that a man would be a good dentist and he urged that an alteration should be made in the present system of apprenticeship. He was aware that many in the dental profession were apathetic in regard to that matter, but that only meant that the reform he urged would have to be more strenuously demanded. Mr. J. Smith Turner, in replying to the toast of "The Hospital and School," drew attention to the fact that it was necessary to collect £3000 each year for 30 years in order to wipe off the mortgage on the new hospital. He referred also to an obligation due to the generosity of a well-known firm of dental appliance makers who had supplied 80 dental operating chairs, costing 15 guineas each, for the immediate use of the new hospital. He made an urgent appeal to the friends of the hospital each "to subscribe a chair" and thus to remove this debt. The appeal met with an encouraging response and ultimately a "chair" fund was started. Amongst the other speakers were Mr. H. F. Waterhouse, Mr. Morton Smale, Mr. J. F. Colyer, Mr. P. Sidney Spokes, and Mr. A. S. Underwood. Amongst those present were Dr. A. Eddowes, Mr. E. Treacher Collins, Dr. Dudley Buxton, Dr. G. Rankin, Dr. Phineas S. Abraham, and Mr. C. Carter Braine.

HOSPITAL SUNDAY.—Oct. 26th was observed in Plymouth as Hospital Sunday and the South Devon and East Cornwall Hospital has received £600 as the result.

LITERARY INTELLIGENCE.—The proprietors of "Hazell's Annual" have decided to publish the 1903 edition on Jan. 20th, and not, as in previous years, early in December. This alteration of date will enable the news and events of the year, at home and abroad, to be covered entirely and all future editions will similarly be issued early in January of each year. The arrangement is one that obviously makes for convenience.

THE LONDON HOSPITAL MEDICAL CLUB.—The annual dinner of this club was held at the Café Royal on Thursday, Nov. 20th. Dr. Frederic W. Hewitt, M.V.O., occupied the chair. He was supported by Dr. A. E. Sansom, Dr. G. E. Herman, and other members of the staff of the hospital. Dr. A. S. Morton, in proposing the health of the chairman, pointed out how Dr. Hewitt had rendered a great service to the King, to the country, to the London Hospital, and to the club. The club had now been in existence exactly a century. It is proposed widely to extend its influence, more especially the benevolent efforts of the club, and at the next annual dinner, which will mark the commencement of a new century of existence, it is to be hoped that under the guidance of the new chairman, Mr. J. A. Hosker, late mayor of Bournemouth, there will be not only a record attendance of old and new members, but that the club will show, by the very handsome sums subscribed, that it has taken a new lease of life.

Parliamentary Intelligence.

HOUSE OF COMMONS.

WEDNESDAY, NOV. 19TH.

Physical Tests for Army Recruits.

Mr. ARTHUR LEE asked the Secretary of State for War whether the physical standards for recruits enlisted for the regular and militia forces had been raised since the introduction of the higher rates of pay; and if so, in what particulars.—Mr. BRODRICK replied: The higher rates of pay have not yet come fully into force. The standard of height has been raised in the case of the hussars from a minimum of 5 feet 2 inches to 5 feet 4 inches. All other physical standards for recruits remain unchanged.

Poor-law Officers' Superannuation.

Mr. FREEMAN-THOMAS asked the President of the Local Government Board if his attention had been directed to resolutions recently passed by various Poor-law unions and conferences in favour of a central superannuation fund, and if in any amendment of the Superannuation Act it would be made compulsory for Poor-law officers to retire at the age of 65 years; and whether, seeing that there were clerks connected with some unions who were nearly 80 years of age, the Local Government Board would suggest to the local board of guardians the need for paying greater attention to the retiring sections of the Act.—Mr. LONG replied: My attention has been called to resolutions passed on the subject of a central superannuation fund. As to the second point, I am not aware that there is any proposal to amend the Poor-law Officers' Superannuation Act in the direction referred to. As regards the concluding part of the question, it is competent to a board of guardians to require any officer who has attained the age of 65 years to retire if they consider that this would be expedient in the interests of the public service. It does not at present seem to me to be necessary to communicate generally with boards of guardians on this subject; but if representations were made to me that any particular officer is by reason of old age unfit for the discharge of his duties I would give the matter my attention.

THURSDAY, NOV. 20TH.

Typhus Fever in the Island of Lewis.

Mr. WEIR asked the Lord Advocate, having regard to the fact that the public school at Tolsta, Island of Lewis, which had on its register 196 children, had been closed since July 3rd last on account of an outbreak of fever, and that there was at the present time an epidemic of typhus fever at Tolsta, would he state what steps were being taken to prevent the epidemic from spreading; and, seeing that the local authorities were unable to arrange for the isolation of patients at Tolsta, would the Secretary for Scotland consider the expediency of applying to the Treasury for a special grant to meet the difficulty.—The LORD ADVOCATE replied: Every precaution in the way of segregation, cleanliness, and free use of disinfectants has been employed. The typhus fever cases only numbered six, of which four are now convalescent. In the circumstances the Secretary for Scotland cannot undertake to approach the Treasury.

Tuberculosis in Home and American Cattle.

Sir JOHN LENG asked the President of the Board of Agriculture whether his attention had been drawn to the veterinary surgeon's report for the year 1901 to the corporation of Glasgow showing that of

46,784 home-bred cattle slaughtered in that year 6332, or 13·53 per cent., were found affected with tuberculosis, while amongst 49,881 Canadian and United States cattle the number was only 66, or 0·13 per cent.; and whether, seeing that in the 1,500,000 of Canadian and United States cattle killed in this country since 1892 the rate was about 1 in 4000, while it had been ascertained that among the home cattle killed in Glasgow 1 in every 7 or 8 was tuberculous, and that foreign buyers had demanded tests for tuberculosis in all the breeding animals they had bought in this country, he would propose measures to diminish the prevalence of tuberculosis in our home cattle, and to raise their health to the Canadian standard.—Mr. HANBURY replied: I have seen the report to which the hon. Member refers. Its author attributes the comparative freedom from bovine tuberculosis of Canadian and United States cattle to the more natural life which they lead in their native country—a condition which it would not be possible, I am afraid, to reproduce in its entirety at home. Some advance has, however, been made in this direction by the enactment of suitable regulations with regard to the ventilation of cowsheds, but the making of such regulations rests entirely with the various local authorities, and their confirmation is in the hands of the Local Government Board and not of my own department.

Barrack Accommodation at Chatham.

Mr. HARMSWORTH asked the Secretary to the Admiralty if he could state when the barracks at Chatham would be ready for the seamen at present accommodated in old ships at that port; what had caused the delay in the completion of the barracks; and whether he had any official reports showing that there had been a prevalence of lung complaints among these men.—Mr. PRETYMAN replied: The barracks are now ready for occupation and are complete with the exception of some additional fittings which have been found necessary since the completion of the main contract. The electric lighting, which has been the main cause of the delay, was completed and trial made on Oct. 30th last. The reply to the last part of the hon. Member's question is in the negative.

MONDAY, NOV. 24TH.

Port Sanitary Authorities.

Sir SEYMOUR KING asked the President of the Local Government Board whether his attention had been directed to a letter addressed to the Local Government Board by the Association of Port Sanitary Authorities on Nov. 19th, 1901, requesting it to issue an Order applying the provisions of the Public Health and Local Government Conferences Act, 1885, to the various port sanitary authorities so as to give them power to apply their funds in paying expenses incidental to attending meetings of the Association of Port Sanitary Authorities; and would he say why no answer had been as yet given to this communication and what course the Local Government Board proposed to adopt in regard to the matter.—Mr. LOCH replied: I do not find that I have received the letter referred to, but representations have been made to me as to the issue of an Order applying the Act mentioned in the question to port sanitary authorities. Legislation would, however, be necessary to enable me to issue an Order for this purpose and the point has been noted for consideration when an opportunity for legislation arises.

Medical Officers of Health and the Education Bill.

Mr. LEVY asked the Secretary to the Board of Education whether a medical officer of health appointed and paid by a borough council, at present a member of the school board of that borough, might be a member of the new education authority or the committee appointed by that authority; and whether a borough elective auditor, elected by the burgesses and paid by the borough council, might be a member of the new education authority or the committee appointed by that authority.—Sir WILLIAM ANSON replied: I can only refer the honourable Member to Clause 18 (5) (d) of the Education Bill.

The subsection in question is in the following terms—viz.: "Any person shall be disqualified for being a member of an education committee who, by reason of holding an office or place of profit, or having any share or interest in a contract or employment, is disqualified for being a member of the council appointing the education committee. But no such disqualification shall apply to a person by reason only of his holding office in a school or college aided, provided, or maintained by the council."

TUESDAY, NOV. 25TH.

Asylum Overcrowding in Ireland.

Mr. TULLY asked the Chief Secretary to the Lord Lieutenant of Ireland whether he would state what was the nature of the reports received from the inspector of lunatics as to the overcrowding of Sligo Asylum; and whether it was intended to take advantage of the offer of the Mohill board of guardians to have their workhouse converted into an auxiliary asylum, and thus save capital expenditure to the counties of Sligo and Leitrim.—Mr. WYNDHAM replied: The substance of the report has been communicated to the joint committee of management of the asylum and published in the press. The county councils of the asylum district are responsible for the provision of sufficient accommodation for the insane poor in the district. No proposal has been made by them in the direction mentioned in the question. If made, it will receive careful consideration.

Infectious Disease in Phœnix Park Depôt.

Mr. TULLY asked the Chief Secretary to the Lord Lieutenant of Ireland whether the Inspector-General had received from the North Dublin Union as sanitary authority a resolution complaining of the constantly recurring cases of infectious diseases from the constabulary depôt in Phœnix Park, and what steps had been taken to enforce the sanitary laws in this instance.—Mr. WYNDHAM replied: The resolution has been received. All possible precautions have been taken by the depôt authorities in consultation with the medical inspector of the Local Government Board to eradicate the disease.

WEDNESDAY, NOV. 26TH.

Remuneration of Poor-law Medical Officers in Ireland.

Mr. TULLY asked the Chief Secretary to the Lord Lieutenant of Ireland whether he could state on what grounds the Local Government Board sanctioned the payment to a medical locum tenens of £4 per week, which fell upon the local rates, while they refused their sanction to a salary to a dispensary medical officer of £200 a year, half of which was paid by the Treasury, and what steps would be taken to remedy this inequality.—Mr. WYNDHAM replied: No proper analogy can be drawn between the remuneration paid to a dispensary medical officer permanently located in a district and to his locum tenens, who may be employed for a week or two only. The question of the determination of the respective emoluments of a principal and of his temporary substitute is governed by different considerations in each case.

The Prevention of Rabies.

Mr. CHANNING asked the President of the Board of Agriculture whether there had been any cases during the last five years in which rabies had been proved to have been introduced into this country by dogs imported from the continent, and, if so, how many such cases had been established; and whether in any such cases the dogs had been purchased abroad or had been dogs which had been taken away by their owners from this country and brought back under the regulations of the Board.—Mr. HANBURY replied: There have been two well-established cases of rabies in dogs imported from the continent since the passing of the Importation of Dogs Order of 1897. In one case the dog was purchased abroad and in the other it had been taken abroad by its owner and brought back with a licence for its landing. In both cases the disease was detected during the period of detention prescribed by the Board of Agriculture.

Appointments.

Successful applicants for Vacancies, secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

BARNES, GEORGE, L.R.C.P. Edin., M.R.C.S., L.S.A., has been appointed Honorary Consulting Physician to the Axminster (Devon) Cottage Hospital.

GORDON, WILLIAM, M.D. Cantab., has been appointed Physician to the West of England Eye Infirmary.

HARSANT, WILLIAM HENRY, F.R.C.S. Eng., has been appointed Honorary Consulting Surgeon to the Bristol Royal Infirmary.

LYSTER, C. R. C., M.R.C.S., has been appointed Medical Officer to the Finsen Light and X-ray Department at the Middlesex Hospital.

MOLE, HAROLD F., F.R.C.S. Eng., has been appointed Surgeon in charge of the Ear Department, Bristol Royal Infirmary.

MORGAN, D. J., M.B., B.C. Cantab., has been appointed Pathologist at the Cancer Hospital, Fulham-road.

PICKARD, RANSOM, M.D., M.S. Lond., F.R.C.S. Eng., L.R.C.P. Lond., D.P.H. Cantab., has been appointed Honorary Assistant Surgeon to the West of England Eye Infirmary, Exeter.

ROPER, ARTHUR CHARLES, F.R.C.S., L.R.C.P. Edin., M.R.C.S. Eng., has been appointed Honorary Surgeon to the West of England Eye Infirmary, Exeter.

SHERREN, JAMES, F.R.C.S. Eng., has been appointed Assistant Demonstrator of Anatomy at the London Hospital Medical College.

SWAIN, JAMES, M.D., M.S. Lond., F.R.C.S. Eng., has been appointed Honorary Surgeon to the Bristol Royal Infirmary.

SYKES, WALTER, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Resident Surgical Officer to the Birmingham and Midland Eye Hospital.

TOSSWILL, L. H., M.B. Cantab., has been appointed Surgeon to the West of England Eye Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ADDENBROOKE'S HOSPITAL, Cambridge.—House Physician. Salary at rate of £50 a year, with board, lodging, and washing.

ARMY MEDICAL SERVICE.—Thirty Commissions in the Royal Army Medical Corps.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES, John Bright-street, Birmingham.—Clinical Assistant for three months, eligible for re-election. Honorarium at rate of 52 guineas per annum. Also Surgical Assistant for six months, eligible for re-election. Honorarium at rate of 52 guineas per annum.

BIRMINGHAM CITY ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, and washing.

BIRMINGHAM, QUEEN'S HOSPITAL.—House Surgeon. Salary at rate of £50 per annum, with board, lodging, and washing.

BRIGHTON, HOVE, AND SUSSEX THROAT AND EAR HOSPITAL, Church-street, Queen's-road, Brighton.—Non-resident House Surgeon for six months, renewable. Salary at rate of £75 per annum.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer, unmarried. Salary £120 per annum, with apartments, board, and laundry.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon for six months. Salary at rate of £50 per annum, with board, residence, and laundry.

CITY OF LONDON LYING-IN HOSPITAL, City-road, E.C.—District Surgeon to the Hospital for South Tottenham.

COUNTY ASYLUM, Dorchester.—Second Assistant Medical Officer. Salary £140 and all found, rising £10 annually.

DERBYSHIRE ROYAL INFIRMARY.—Two Honorary Dental Surgeons.

DEWSBURY AND DISTRICT GENERAL INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

GRIMSBY AND DISTRICT HOSPITAL.—Resident House Surgeon. Salary £100 per annum, with board, lodging, and washing.

GUEST HOSPITAL, Dudley.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

HALIFAX ROYAL INFIRMARY.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

HAYDOCK LODGE ASYLUM, Lancashire.—Assistant Medical Officer, unmarried. Salary £175 per annum, rising to £200, with quarters, board, washing, &c.

HERTFORDSHIRE COUNTY ASYLUM, Hill End, St. Albans.—Junior Assistant Medical Officer, unmarried. Salary £160 a year, with board, apartments, and washing.

HOSPITAL FOR DISEASES OF THE THROAT, Golden-square, W.—Resident Medical Officer. Salary £50 per annum, with board, residence, and laundry.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale, W.—Physician, also Anæsthetist.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Resident Medical Superintendent. Salary 100 guineas per annum, with board and residence.

INDIAN MEDICAL SERVICE, India Office.—Thirteen Appointments in His Majesty's Indian Medical Service.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House Surgeon, unmarried. Salary £140, increasing to £170, with rooms and attendance.

LEITH HOSPITAL.—Medical Registrar, also Medical Electrician.

LINCOLN COUNTY HOSPITAL.—Senior Male House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

MANCHESTER MONSALL FEVER HOSPITAL.—Third Medical Assistant. Salary £100 per annum, with board and lodging.

MANCHESTER ROYAL INFIRMARY CONVALESCENT HOSPITAL, Cheadle.—Resident Medical Officer, unmarried. Salary £150 per annum, with board and residence.

MIDDLESEX HOSPITAL CANCER RESEARCH LABORATORIES.—Junior Pathological Assistant. Salary £100 per annum.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Assistant Ophthalmic Surgeon.

MILROY LECTURES ON STATE MEDICINE AND PUBLIC HEALTH.—Milroy Lecturer for 1904.

MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—House Surgeon. Salary £80, with board, residence, and laundry.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, 32, Soho-square, W.—Assistant Physician.

NEW ROSS UNION. Carrigbyrne Dispensary District.—Medical Officer. Salary £125 per annum, with fees.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, N.E.—Surgeon.

OLDHAM INFIRMARY.—Junior House Surgeon. Salary £75 per annum, with board, residence, and washing.

PRESTON, LANCASHIRE, COUNTY ASYLUM, Whittingham.—Junior Assistant Medical Officer, unmarried. Salary £150, with apartments, board, washing, and attendance.

QUEEN'S JUBILEE HOSPITAL, Richmond-road, Earl's Court, S.W.—House Surgeon for six months. Honorarium at rate of £50 per annum, with board, laundry, and residence.

ROCHDALE INFIRMARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, residence, and washing.

ROYAL EAR HOSPITAL, Frith-street, Soho, W.—Non-resident House Surgeon. Honorarium at rate of £50 per annum.

ROYAL EYE HOSPITAL, Southwark.—Refraction Assistant. Also Clinical Assistants.

ST. MARY'S HOSPITAL FOR SICK CHILDREN, Plaistow, E.—Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £80 per annum, with board, residence, and laundry.

SALOP INFIRMARY, Shrewsbury.—House Surgeon. Salary £100 per annum, with board, washing, and residence.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, Plymouth.—Secretary. Salary £300 per annum.

SOUTHAMPTON INCORPORATION NEW WORKHOUSE INFIRMARY, Shirley Warren.—Resident Assistant Medical Officer. Salary £100 per annum, with apartments, rations, washing, and attendance.

UNIVERSITY OF EDINBURGH.—Examinership in Zoology.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Senior House Surgeon, unmarried. Salary £100 a year, with board, residence, and laundry.

WEST RIDING ASYLUM, Wakefield.—Locum Tenens for a period of one month. Salary £3 3s. a week, with apartments and board.

WOLVERHAMPTON AND DISTRICT HOSPITAL FOR WOMEN.—Surgeon.

WORCESTER GENERAL INFIRMARY.—Surgeon. Also House Surgeon. Salary £70 per annum, with board and residence.

Births, Marriages, and Deaths.

BIRTHS.

BENNETT.—On the 7th inst., at 29, Norfolk-crescent, Hyde Park, W. the wife of Francis G. Bennett, B.A.Cantab., L.S.A., of a daughter.

GILLETT.—On Nov. 20th, at Brooke, Norfolk, the wife of G. E. Gillett, M.R.C.S., L.R.C.P. Lond., of a son.

HASSALL.—On the 19th inst., at Headingley House, Knutsford, the wife of John M. Hassall, M.D., of a daughter.

MARRIAGES.

GODWIN—APPLEBY.—On the 25th inst., at St. Oswald's Church, Durham, by the Rev. M. Horsfall, M.A., of Whitby, assisted by the Rev. W. Wadsworth, M.A., vicar of St. Oswald's, Herbert James Godwin, M.B., B.S., M.R.C.S., L.R.C.P., eldest son of the late James Godwin, M.R.C.S., L.S.A., of Twyford, Winchester, Hants, to Florence Marion, second daughter of Captain George Walton Appleby, late Cameronians (Scottish Rifles), of 10, Church-street, Durham.

DEATHS.

CHUBB.—On Nov. 17th, at his residence, Torpoint, Cornwall, Charles William Chubb, M.R.C.S., L.S.A., aged 82 years.

HACON.—On Nov. 21st, at Mare-street, Hackney, Edward Dennis Hacon, F.R.C.S. Eng., in the 84th year of his age.

McINTYRE.—On Monday, August 25th, 1902, at his residence, Avoca House, Natal, S. Africa, John McIntyre, M.D., in his 73rd year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

MEDICAL BISHOPS.

WE are reminded by a paragraph in the *Westminster Gazette* that Dr. John Strachan, who has recently resigned the bishopric of Rangoon, is one of numerous members of the medical profession who have risen to distinction in the Church of England, the best-known being the late Dr. Hicks, the Cambridge don, who became Bishop of Bloemfontein. Bishop Strachan took his M.D. degree at Edinburgh University as gold medalist, and has had some connexion with scientific education in India as a Fellow of the University of Madras. He has resigned his bishopric because he considers that his immense diocese, which includes not merely "the road to Mandalay" but also the isles of the Indian Ocean, "where the flying fishes play," must necessarily demand the physical vigour of a more youthful prelate. Other members of our profession who hold distinguished positions in the Church are the Bishop of Lebombo, the Right Rev. W. E. Smyth, M.A., M.B. Cantab.; and the Bishop of Zanzibar and East Africa, the Right Rev. J. E. Hine, D.D. Oxon, M.D. Lond. Although not a bishop the Rev. T. W. Belcher, D.D. Oxon, who read the lessons at the anniversary service of the Guild of St. Luke at St. Paul's Cathedral on Oct. 22nd, is an M.D. of Dublin and an F.R.C.P. Irel.

RED RAYS OF LIGHT AND THE GROWTH OF HAIR.

To the Editors of THE LANCET.

SIRS,—Though I cannot answer the query of "P. H. B." in THE LANCET of Nov. 15th, p. 1365, I may say that I am now trying the effect of red rays in the case of my own almost bald head. The apparatus employed and which I have on the premises is a combined incandescent and arc electric-light bath with an additional parabolic reflector of 2500-candle power. By a simple design I can give patients an imitation sun bath, a red-ray, or a blue-ray bath; I am at present treating a case of birth palsy with extreme contracture of the legs with some success.

I am, Sirs, yours faithfully,

Gloucester-place, Nov. 17th, 1902. J. STENSON HOOKER.

P.S.—With regard to "M.'s" query *re* intractable thread-worms, in THE LANCET of Nov. 15th, p. 1366, has he tried copious injections—a pint or more by syphonage—of warm water to which has been added some chloride of sodium? Of course, the rectum and, as far as possible, the colon should be previously emptied.

POSTPONED DENTITION.

To the Editors of THE LANCET.

SIRS,—This is the greatest age that I have heard of where death has ensued from dentition. West Stow Hall, in this county, was bequeathed in 1669 to the Hon. Edward Progers of London—"the Gay Progers"—who, according to Le Neve, died on Dec. 31st or Jan. 1st, 1713, "aged 96, of the anguish of cutting teeth, he having cut four new teeth and had several ready to cut, which so inflamed his gums that he died thereof." Mr. Progers was a younger son of Colonel Progers of Ganeddin, in Monmouthshire, equerry to James I.

I am, Sirs, yours faithfully,

SAML. J. J. KIRBY, M.D. Brux., &c.

Fressingfield, Suffolk, Nov. 17th, 1902.

THE STATE OF OUR PAVEMENTS AND INFLUENZA.

To the Editors of THE LANCET.

SIRS,—I have for some years pointed out that the filthy state of our pavements, covered with loose dogs' motion, is a forerunner of an epidemic of influenza. The warning is heeded now in Hampstead.

I am, Sirs, yours faithfully,

Belsize Park, N.W., Nov. 18th, 1902. G. PORTER WORNUM.

CONFECTIO DAMOCRATIS.

To the Editors of THE LANCET.

SIRS,—Will any reader inform me if confectio Damocratis, Lond. Ph., 1746, is obtainable either in this country or on the continent and the address of anyone who supplies it? Is the tincture of Warburg obtainable, made according to the formula of Dr. Warburg and given in THE LANCET of 1875, in this country, or in Austria, or in France, and where?

I am, Sirs, yours faithfully,

J. CARSON ABBOTT, M.B. Glasg.

Fairfield House, Lichfield-road, Aston, Birmingham, Nov. 24th, 1902.

THE DANGERS OF COMMON COLDS.

To the Editors of THE LANCET.

SIRS,—May I add my mite to the interesting discussion which has been appearing upon colds? Formerly a great sufferer from both nasal and laryngeal colds, I have found that in the latter, if a three grain to the ounce solution of nitrate of silver be sprayed into the larynx at the first sign of soreness, the cold is usually aborted. In the former case a 5 per cent. solution of the same drug applied to the posterior and upper surface of the soft palate will accomplish the same if used when

the first premonitory tickling and dryness of the palate warn one of the approach of a cold.

In the *Medical World* for February, 1901, Dr. W. F. Waugh of Chicago says he is very liable to colds in the head and that he has found that a small mouthful of chlorine water (which burns like fire!) will abort them if taken when the first tickling in the palate manifests itself. His formula is one drachm each of powdered chlorate of potash and hydrochloric acid C.P., to which eight ounces of water are gradually added as the gas develops, the mixture being shaken the while till all is dissolved. Incidentally, I may mention that since adopting linen mesh underwear two years ago my colds have diminished greatly in frequency. *Post or propter*—which?

I am, Sirs, yours faithfully,
ARTHUR E. GRESHAM, M.D.

Sierra Madre, California, Nov. 1st, 1902.

THE MEDICAL MAYORS OF SAFFRON WALDEN.

WE have been favoured by Mr. Henry Stear, M.R.C.S. Eng., the mayor of Saffron Walden, with the following interesting list of the medical mayors of the borough of which he has this year been elected to the civic chair:—William Mapletoft, 1750, 1781, 1791, and Robert Mapletoft, 1780 (both died the same year and the same month); John Fiske, 1784, 1793, 1811; Charles Fiske, 1803, 1810, 1816, 1823, 1833, and Samuel Fiske, 1818, 1824, 1829, 1837, 1838 (sons of John Fiske); Thomas Spurgin, 1840, 1849, 1858; Alfred Jones, 1859; and A. P. Atkinson, 1891, 1892, 1900, 1901. Probably other medical men held the office prior to 1750, says Mr. Stear, as the borough dates back to the time of King John.

The name of Mapletoft, which is rather an uncommon one, calls to mind the Dr. Mapletoft who has been credited with the Latin translation of Thomas Sydenham's "Observationes Medicæ," though we do not know whether he was related to the Mapletofts who were mayors of Saffron Walden.

A PATHOLOGICAL EPITAPH.

To the Editors of THE LANCET.

SIRS,—The other day, after an absence of 23 years, I once more happened to visit the highly interesting old Bunhill Fields Burial Ground. It is situated in the City-road, just opposite the house where John Wesley lived and died, and contains, among other memorable tombs, the graves of John Bunyan, Daniel Defoe, and Isaac Watts. But there is one monument upon which is inscribed so curious and remarkable an epitaph that I cannot refrain from quoting it:—

South side:

"Here lyes Dame Mary Page,
Relict of Sir Gregory Page, Bart.,
She departed this life March 11, 1726,
In the 56 year of her age."

North side:

"In 67 months she was tap'd 66 times,
Had taken away 240 gallons of water,
Without ever repining at her case,
Or ever fearing the operation."

I am, Sirs, yours faithfully,
St. John's Wood, N.W., Nov. 23rd, 1902. ALGERNON ASHTON.

SUPRARENAL GLAND EXTRACT IN THE TREATMENT OF ALCOHOLISM.

To the Editors of THE LANCET.

SIRS,—I should like to know whether any of your readers have had any experience in the use of suprarenal gland in alcoholics. It appeared to me that its physiological action was antagonistic to that of alcohol in long-continued doses and I have tried it in a few cases with fairly good results, using the solution of adrenalin chloride both internally and for spraying the fauces. It certainly in my experience relieves the morning sickness and consequently the craving for stimulants. To anyone who really wishes to give up the alcoholic habit it may, I think, bring help, and certainly to those who put themselves under control it will save many hours of suffering.

I am, Sirs, yours faithfully,
Nov. 19th, 1902. C. T. D.

TWO QUERIES.

To the Editors of THE LANCET.

SIRS,—I should be glad if you could through your journal give me particulars:—1. As to the best means of enumerating "blood plates." 2. References on the anæmia of rheumatism.

I am, Sirs, yours faithfully,
W. B. T.

*** 1. A full account of methods of enumerating the elements of the blood is to be found in "Diseases of the Blood" by Dr. A. C. Coles. (London, J. and A. Churchill, 1902, price 10*s.* 6*d.*) 2. Da Costa, "Clinical Hæmatology" (London, Rebman, 1902); Ewing, "Clinical Pathology of the Blood" (London, Kimpton, 1901).—ED. L.

A. M. C.—There are no regulations of the General Medical Council with regard to accepting such appointments. The General Medical Council has, however, expressed an opinion that in certain circumstances the relations of medical men to medical aid associations are regrettable. We cannot advise our correspondent about accepting or rejecting the particular position which has been offered to him as we do not know how far the medical club will work on professional lines. No medical man should accept terms that are manifestly inadequate. Nor should he fill posts that in the opinion of any local medical society do not offer to a medical man a proper professional position. And in particular he must avoid serving lay associations where touting for patients is the rule. We have always in THE LANCET pointed out that some medical aid associations are much better managed in professional respects than others; but medical men must judge for themselves whether any particular post can be held with self-respect.

Vulcan.—There are no means by which an unqualified person can be prevented from practising medicine, so long as he does not "take or use the name or title of a physician, doctor of medicine, licentiate in medicine or surgery, bachelor of medicine, surgeon, general practitioner or apothecary or any name, title, addition or description implying that he is registered under this Act"—this Act being the Medical Act of 1858. Our correspondent is advised not to sign the death certificate in the next case of death under the care of the reverend gentleman but to communicate with the coroner.

P. Q. is advised to write direct to the Director-General of the Army Medical Department, 18, Victoria-street, S.W., and to put the situation frankly before him. Any medical man who has served in South Africa must have a better knowledge of military routine than one who has been engaged in civilian practice only; but we are not aware to what extent this position is recognised.

G. S. M.—Our correspondent's question is somewhat difficult to answer as he does not say what particular professional work he desires to do. We should advise him to take out a ticket for the post-graduate course of the Associated Medical Schools, of which he will find particulars in THE LANCET of Nov. 1st, p. 1213.

F.R.G.—We are sorry to be unable to give advice in a case involving such complex points of law. Our correspondent's best course would be to consult a solicitor.

M. O. H.—Our correspondent would do well to consult the clerk to his sanitary authority.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (2nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (3rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (4th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (6th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (2nd).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Card Specimen:—Mr. W. T. Hillier: Repair of a Costal Cartilage. Papers:—Mr. C. S. Shattock: Changes occurring in a Mammary Scirrhus treated by X Rays.—Mr. M. S

Mayou: Changes in Rodent Ulcer produced by X Ray Treatment.—Dr. P. Weber: Biliary Cirrhosis of the Liver with and without Cholelithiasis.—Dr. Mullings: A Case of Tuberculosis of the Œsophagus.—Dr. Thursfield: Atheromatous Obliteration of the Innominate Artery.—Mr. W. T. Hillier: A Thoracic Duct containing Secondary Carcinoma.

WEDNESDAY (3rd).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Dr. Blacker, Dr. Giles, Dr. Lewers, Dr. W. C. Swayne, Dr. Sikes, and Mr Malcolm. Short Communication:—Dr. V. Bonney: Dermoid Cyst containing (a large number of) Epithelial Balls. Paper:—Dr. G. E. Herman and Dr. H. R. Andrews: A Contribution to the Natural History of Dysmenorrhœa.

THURSDAY (4th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—8.30 P.M. Discussion on The Surgery of Acute Appendicitis (opened by Mr. C. B. Lockwood).

NORTH-EAST LONDON CLINICAL SOCIETY (Tottenham Hospital, N.).—4 P.M. Clinical Cases.

RÖNTGEN SOCIETY (20, Hanover-square, W.).—8.30 P.M. Mr. Isenthal will show the Nodon Electic Valve for converting Alternating into Continuous Current. Dr. D. Walsh: An Observation bearing upon the Therapeutic Action of the Focus Tube. Paper:—Mr. S. Mayou: X Rays in Ophthalmic Work (with lantern slides).

NEUROLOGICAL SOCIETY OF LONDON (Physiological Laboratory, University College).—8.30 P.M. Meeting.

FRIDAY (5th).—WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich-road, S.E.).—8.45 P.M. Mr. A. Bowlby: The Simulation of Intestinal Obstruction (Purvis Oration). Conversazione. Demonstrations:—The President and Mr. L. Bastes: Some Clinical Tests and Scientific Methods of Cultivation of Bacteria.—Mr. J. J. Vezey: X-Ray, High Frequency Electrical, and Vibro-Therapeutical Apparatus, and Finsen Lamps. Messrs. Arnold and Son will exhibit Surgical Instruments.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases, Specimens, and Instruments will be shown by Dr. L. Turner, Mr. W. R. H. Stewart, Mr. A. H. Burt, Dr. S. Spicer, Mr. F. J. Steward, and others.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (1st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. F. Payne: Clinique. (Skin.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Paget: The Uses of Paraffin in Plastic Operations.

TUESDAY (2nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. W. Ewart: Clinique. (Medical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Saunders: Congenital Heart Disease.

WESTMINSTER HOSPITAL (Broad Sanctuary, S.W.).—4.30 P.M. Dr. de Havilland Hall: Medical Cases. (Post-Graduate Clinical Demonstration.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Taylor: Epilepsy.

WEDNESDAY (3rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. E. W. Roughton: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Russell: Diabetes.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Habershon: Mitral Stenosis.

THURSDAY (4th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Keetley: Fractures in and near the Shoulder Joint.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Still: Preparation of Milk for Infant Feeding.

CHARING CROSS HOSPITAL.—4 P.M. Dr. Murray: Demonstration of Medical Cases. (Post-Graduate Course.)

FRIDAY (5th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. T. Collins: Clinique. (Eye.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Shuter: Ether Administration.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 27th, 1902.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Nov. 21	30·27	N.E.	...	45	42	32	33	35	Foggy
,, 22	30·12	S.	...	47	45	34	36	36	Overcast
,, 23	29·99	S.W.	0·01	58	50	35	44	44	Hazy
,, 24	29·75	S.E.	0·01	53	52	44	43	44	Foggy
,, 25	29·22	S.	0·27	62	53	44	50	52	Cloudy
,, 26	29·35	S.E.	0·09	55	52	49	48	49	Overcast
,, 27	29·60	E.	...	50	48	47	47	48	Overcast

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THE LANCET
Special Analytical Commission
ON
BRANDY

ITS PRODUCTION AT COGNAC; THE PRESENT POSITION OF THE INDUSTRY IN THE CHARENTES; and THE SUPPLY OF GENUINE BRANDY TO THIS COUNTRY.

A STIGMA has rested on Cognac brandy and the produce of the Charente district generally ever since it was known that the vineyards of that celebrated district were severely attacked by the phylloxera from 1872 onwards. This misfortune undoubtedly led the way to fraudulent and unscrupulous practices. The wonderfully abundant and bountiful harvests of the years preceding the first attacks of the phylloxera, when huge stocks of brandy had been accumulated, did not deter the public from assuming that genuine Cognac brandy would soon be a thing of the past. The resources of the brandy merchants were, of course, strained and the output of genuine Cognac brandy was necessarily diminished, the price of genuine brandy naturally advanced, and a trade in false brandy developed. The English Consul at Rochelle pointed out in his returns again and again that it was impossible that all the brandy shipped to England could be genuine grape spirit from the Charente district and on several occasions in our columns we have commented upon his statements, bearing in mind that while the production of grapes had been largely checked yet the exportation of spirit did not sensibly diminish; while the areas of cultivation were shrinking the output of brandy was the same or even increased.

The natural interpretation of this apparent anomaly was that a new source of spirit had been found and consummate skill was being employed in the preparation of a spirit described falsely as Cognac brandy. Thus the opportunity afforded by the deadly attacks of the phylloxera upon the vines was quickly seized and the practice of falsifying brandy commenced, with the result that a distrust in the character of the brandy sent to this country was soon engendered—a distrust not without foundation. All this time there were, however, large stocks of the genuine article still in the immense warehouses on the banks of the Charente, and in spite of the ravages of disease on all sides sufficient grapes were grown during the whole phylloxera period to form a vintage and genuine brandy was produced, though necessarily in smaller quantities in the Charente district, even when the disease was threatening to complete its destructive work. It was an anxious time for the leading and respectable houses of Cognac, who did their utmost to defeat a nefarious trade and sacrificed a good deal to keep up the supply of genuine brandy. The low price of the fabricated spirit, however, handicapped these efforts, the stuff being sold in the London market for 1*s.* 2*d.* per gallon. Thus brandy lost for a time its good name and other spirits grew in favour. Confidence, however, is steadily being restored in brandy now that it is beginning to be known that the vineyards have been successfully re-planted and that abundant harvests are being obtained.

It will be our endeavour to show in the present article how far this confidence is consistent with facts. In view of the doubts existing in the minds of the medical profession and others as to the genuineness of Cognac brandy now upon the market we decided to make the supply of brandy a subject of perfectly independent inquiry, more especially as last year an opportunity was offered to us by the leading houses of Cognac of obtaining all the materials it was possible to obtain in order to secure a definite answer one way or other on the question at issue. It was finally proposed that we should appoint a Special Commissioner to proceed to the Cognac district to make a searching and independent inquiry into the present condition of the industry there. A consideration of the importance of the medical aspect of the question was a strong inducement to us to undertake this investigation and to discover for ourselves the truth, for, as we have repeatedly pointed out, the medicinal properties of genuine brandy are not shared by "foreign" spirits. The marked restorative and stimulating properties of genuine brandy may be referred to its peculiar composition, a composition which, as we shall show, differs in very important respects from that of spirit made from grain, potato, beet-root, or sugar.

The invitation, therefore, to appoint a representative "to make a searching inquiry into the present condition of the vineyards of the Cognac districts [we are quoting the exact terms of the invitation of the leading Cognac houses], the processes of distillation, and the stock of genuine

brandy in the country," was one which we felt justified in accepting on the understanding that our Commissioner was to be perfectly free to prosecute his inquiries in any and whatsoever direction he might deem desirable. The answer to this was: "The leading firms would welcome such an inquiry, for they were anxious that the truth should be ascertained and brought home to medical men," and every confidence was expressed "that the leading firms would give our representative all facilities in their power, their object being, not to promote the sale of their particular brands, but to have settled the question as to whether pure French brandy is being produced in quantities and at prices which render it unnecessary to look further afield for a substitute for the real article." Eventually we instructed a Special Commissioner to visit Cognac and the Charente districts in November last year, just as the great processes of distillation of the 1901 harvest had commenced. The grapes had been gathered in during September and generally by the end of November the wine is finished and ready for the still. The distillation lasts until the spring. The present report is the outcome of his investigation which relates to the production of brandy at Cognac, the present position of the industry in the Charentes, and the supply of genuine brandy to this country.

COGNAC AND THE CHARENTES.

The famous French brandy district, which has the important town of Cognac for its centre, is situated in the heart of the Charente department, comprising two areas known respectively as the Charente-Supérieure and the Charente-Inférieure. It is bounded by the sea and the estuary of the Gironde on the west, by the district Deux-Sèvres on the north, and a portion of the Charente department on the east, and by the Dordogne and Gironde departments on the south. The total area of the wine-producing districts as shown in shading in the map (Fig. 1) is about 2,850,000 acres. The river Charente, from which the department derives its name, flows through Angoulême in the east, thence through Châteauneuf, Jarnac, Cognac, Saintes, Tonnay Charente (where Cognac brandy is shipped for export), thence through Rochefort to the sea. Cognac, a general view of which is given in Fig. 2, is a quaint, attractive, and busy town situated right in the heart of the district on the left bank of the Charente, 24 miles north-west by west of Angoulême, where is situated a castle, built by and for long the residence of, the Counts of Angoulême of the Valois family, in which Francis I. was born in 1494. The population is about 20,000, the inhabitants being entirely engaged in the business of the production of brandy. Most of the great brandy houses are situated in Cognac, though there are well-known firms at Angoulême, Jarnac, Châteauneuf, and other places on the river Charente. The Charente valley is very picturesque and calls to mind the Thames at Clieveden. The brandy is shipped in barges on the Charente, the warehouses or *chais* generally abutting on the river side. A view of the port of Cognac is given in Fig. 3, in which is shown the castle, now occupied by a well-known firm of brandy merchants, in which Francis I. was born.

Very little distillation of wine takes place in Cognac itself, the distilleries being situated in the vineyards in the various districts. It is an obviously economical proceeding to obtain the spirit as far as possible on the spot where the wine is produced. The grape farmer brings his wine to the distiller who after testing it pays a price for it and then commits it to the still. Formerly the farmer distilled his own wine and sold the spirit to the merchant. The merchant now controls the distillation entirely in order to assure himself of the genuineness of the product. Our Special Commissioner visited a great number of these distilleries which are scattered about the various districts. His excursions for that purpose extended over an area represented by about 40 square miles from Gemozac in the south-west to Augoulême in the east, and from Mesnac to the north of Cognac to St. Magrain about 20 miles south of that town. This area comprises five of the celebrated brandy-producing districts—namely, (1) the Grande or Fine Champagne district; (2) the Petite Champagne district; (3) the Borderies or Premiers Bois district; (4) the Fins Bois district; and (5) the Bons Bois district. Each district is perfectly distinct and each produces a wine of distinctive quality. As a matter of fact, there are seven districts classified according to the quality of wine and brandy which they produce. Their position and relative size are shown in the map of the Charentes (Fig. 1).

By a reference to the *legende* or key to the map each district will be readily recognised by the shading corresponding with the description. Thus the Grande or Fine Champagne district, where the grapes producing the best brandy are grown, lies to the south and south-east of Cognac. The district is characterised by a more or less chalky soil. The Petite Champagne district, producing the next best wine, skirts the Grande Champagne district on the east, west, and south, the whole of the district lying to the south of the Charente river. To the west by north of Cognac lies a small district known as the Borderies or Premiers Bois district on the north side of the Charente, a district quite distinct in producing a wine or brandy of a quality not so good as the two "Champagnes" but superior to other districts.

By far the largest district is that known as the "Fins Bois" which completely surrounds the "two Champagnes" and "the Borderies." Its soil in general differs from the Grande Champagne by presenting a relatively small percentage of chalk and is, in fact, of a clayey description. The "Fins Bois" district produces an excellent brandy, but it does not possess the "finesse" or style of Grande Champagne or Petite Champagne. Completely surrounding the "Fins Bois" district again is the "Bons Bois" district which also produces a good spirit useful for blending. In the south-west portion of the district is a small patch of "Fins Bois." Beyond the "Bons Bois" district and between it and the coast is the "Bois Ordinaires" district, which is succeeded by the "Bois communs dits à terroir" on the sea coast, both producing wine of a certain quality and inferior to the districts lying nearer to Cognac. The soil is soft and damp. The quality of wine and ultimately of the brandy yielded on distillation is purely a question of soil. Thus, as is shown in the map (Fig. 1), the best qualities of wine are derived from the districts nearest to Cognac on the south side of the Charente, the Grande Champagne district and the Petite Champagne district, the soil of these districts being decidedly chalky and containing as much as 35 per cent. of calcium carbonate. As the outer districts, Fins Bois and Bons Bois, and so on, are approached a more or less damp, clayey soil is met with.

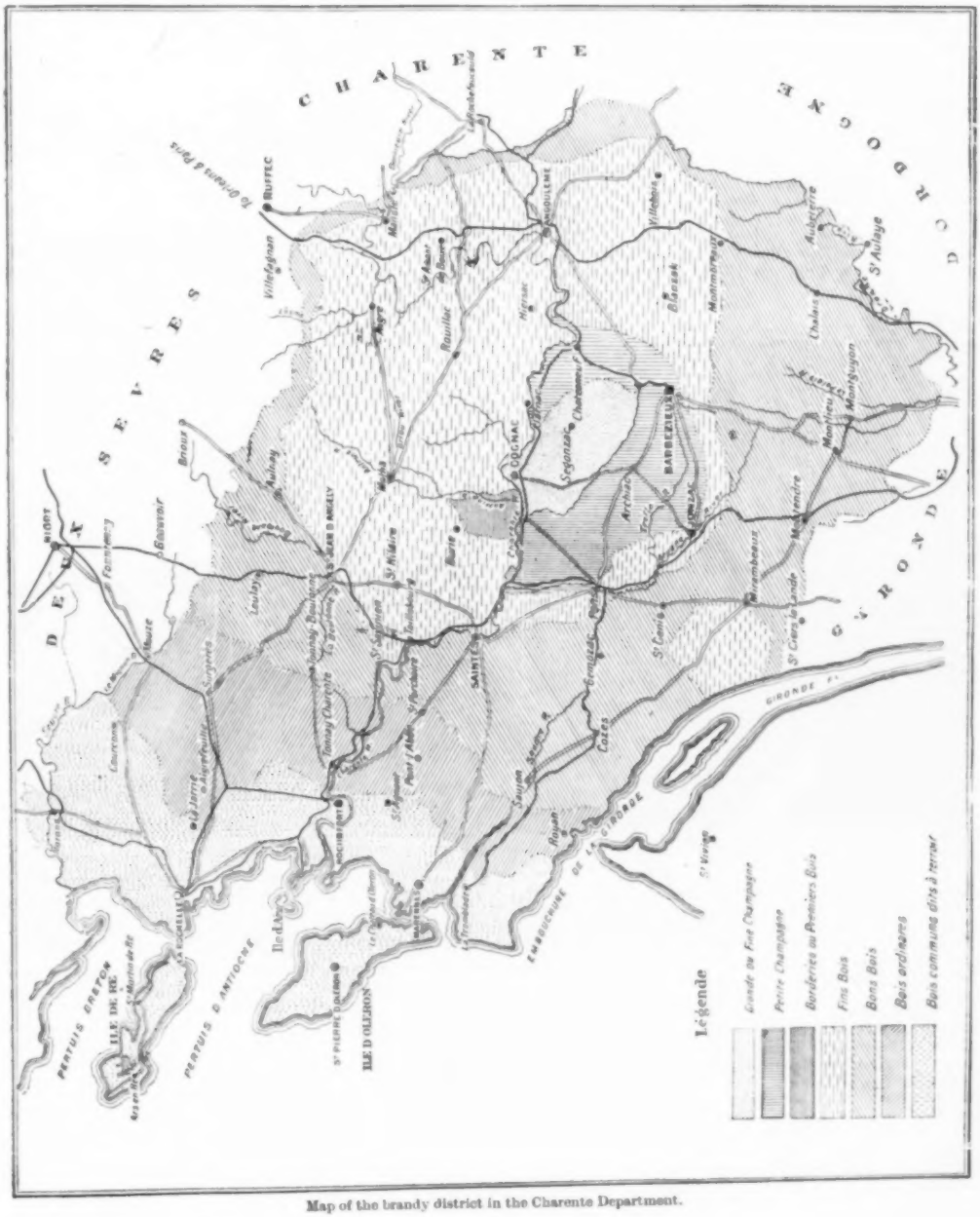
In dealing next with the history of the terrible calamity which befell the famous vineyards of Charente, the devastation of the vines by the phylloxera, we shall have occasion to refer to the varying degrees of resistance offered by the vines in the different districts to the disease, as well as to the difficulties which presented themselves when replanting the vineyards in selecting a new vine which would flourish on a specific soil. As we shall show, these difficulties were only overcome by making elaborate analyses of the soil and by selecting, amongst other things, just that vine for which the soil of a particular composition was known to be suitable.

THE HISTORY OF PHYLLOXERA.

There is no doubt that at one time in the history of Cognac brandy the phylloxera disease was very nearly master of the situation and in 1877 the outlook was indeed black. The farmers were completely paralysed by the rapid progress of the disease and were inclined to abandon all hope of stemming the progress of the pest. To them it meant ruin. To the merchant who held huge stocks of brandy the immediate situation was not serious. It was, however, the merchant who was eventually instrumental in bringing back the vineyards to health and life, and had he not done so sooner or later his stock would have been exhausted. For years and years the wine-growers had reaped bountiful and prolific harvests, producing the magnificent brandies of such years as 1858 and 1865. Disease was an absolute stranger to the vineyards and not a single thought was given to the question of taking preventive measures, although outbreaks of disease in the neighbouring wine-producing countries had been reported from time to time. Grapes were yielded without any attention and little dressing of the soil had been done.

The first symptoms of phylloxera appeared in the Charente vineyards in 1872 and the disease spread slowly but surely without any serious attempt being made to check its progress. A sketch of the phylloxera taken from the "Manuel Elémentaire de Viticulture," issued by the Station Viticole de Cognac, is shown in Fig. 4. "a" is the upper and "b" is the lower view of the insect before the winged stage. It is of a yellowish colour and of about the size of a pin's head. Fig. 5 shows the roots of a vine attacked by phylloxera.

FIG. 1.



Map of the brandy district in the Charente Department.

The insect bores a hole into the roots and swellings ensue and subsequently the stem is killed. "n" shows the effect on small roots or nodosities and "t" on the large roots or tuberosities. In 1875 the heat of the summer and the dryness of the season favoured an abundant harvest, but these conditions also gave an all too powerful stimulus to the growth of phylloxera and the disease assumed alarming proportions. The devastation of the vines in the Champagne district and in the Borderies, owing to their light soil, took place with alarming rapidity until in 1877 the destruction of the vines was well-nigh complete in these districts. The plants were regarded as being beyond recovery and so they were uprooted and burned (a mistaken and unnecessarily drastic course, as was afterwards shown). Huge tracts were thus laid bare where formerly the vine had flourished which had produced the finest brandy for nearly a century. This method did not stay the plague—the enemy remained entrenched in the ground. In 1874 commenced the first attempts to organise a definite plan of campaign against the spread of phylloxera, based on the teachings of scientific research. Sums of money were voted for the purpose, the merchants being the chief subscribers and they stipulated that the work of investigation and study should be begun and placed under the direction of the Académie des Sciences. Insecticides were tried by injecting them into the soil, notably, carbon disulphide and the sulpho-carbonates, and in a few districts some amount of success was promised and attained. It was an interesting fact that in certain districts where a damp clayey soil was the rule the vines had withstood the approach of phylloxera, while those vines suffered most which were in the dry chalk soils (Grande and Petite Champagne).

At length it was decided to try grafting, but not until years of patient toil and experiment had passed could any definite indication be gained that this method would be likely to succeed. Following the plan adopted in other wine districts in France the viticulturist in the Charente tried in 1880 the grafting with American vines. The success at first met with was indifferent, the result again being in accordance with the kind of soil in which the vine was placed. In some districts the grafted vines flourished but in the Grande Champagne district in particular they succumbed to "*chlorose*." The chalky soil of the best districts was not conducive to the healthy growth and development of the grafted plant.

An important step towards the solution of the difficult problem was taken in 1887 when an expert (M. Viala) was commissioned to find an American vine that would flourish on a chalky soil. The most encouraging result followed, for he discovered a vine in Texas growing on a soil of a chemical composition similar to that of the Grande Champagne district. The discovery was of the greatest importance and much credit is acknowledged to be due to M. Viala. By this time, however, the vine farmer was becoming incredulous as to the efficacy of any expedient. He had tried so many plans only to be met with failure. To introduce the American plant (the Berlandieri vine) into the whole of the devastated districts was a huge task, involving the expenditure of much time and money, and already they had tried plant upon plant with no success and they were fast losing hope that success would ever be attained; therefore, promising as this discovery was they hesitated to try it. It was, of course, not possible to assure them of success. The leading brandy houses of Cognac then decided to initiate experiments and an association was appointed in 1888 to plan and to supervise the re-planting of the vineyards. This proved to be a step which ultimately led to the passing of the most critical period in the history of the Charente vineyards. Money was raised and a committee was appointed which was to organise and to conduct practical field work and scientific investigation. M. Ravaz was appointed as the first technical director and he was to pursue a policy formulated by the committee. The committee was appointed for five years, its object being the restoration of the vines. Its first president was M. Germain.

FIG. 2.

A general view of Cognac. (From a photograph by Ch. Collas et Cie., Cognac.)

Within three years of its formation this committee through its mouthpiece the president was able to report "this year (1891) has seen the first plantation completed."

The result was decidedly encouraging and such as to induce the growers to try again despite the incredulity which had increased in their minds as to any chance of restoring the vines. Even with demonstrations before them the farmers remained doubtful, unwilling to risk further disappointment. Still small successes were undoubtedly being gained and in reality the step which the committee had taken proved to be the dawn, if only the first streak, of the rehabilitation of the Charente vineyards. The problem, however, was by no means solved, for it was clear that while certain species of vine or grafts flourished in one district they failed in others, and the reasons for these inconsistencies had next to be studied. In 1892 the term of office of the committee appointed in 1888 expired and the obvious course was to re-elect for another term of five years those who had begun the tremendous uphill work so well. With this evidence of the confidence placed in it the committee resumed its work and this time it was directed to a closer study of the soils and of the whims of the various vines. Experimental stations were established; cross-fertilisation was tried, and grafts were eventually decided upon which it

was considered would find a congenial soil in the most difficult district to deal with—viz., La Grande Champagne. The experiments and results were now advancing beyond the grasp of the average farmer and steps were therefore taken to instruct him in accordance with the teaching of research upon the art of hybridising based upon the special characteristics of the soils of the various districts. Some were still sceptical of success, especially in view of the report by M. Ravaz in 1890 that in the "Champagnes" the American vines had not flourished as well as was desired, but M. Ravaz expressed the hope that they would find some grafts that would develop successfully. In the meantime trials were being made in the experimental station with insecticides applied to French vines. Six years later practically the re-plantation of the Grande Champagne was announced, experience at length establishing that the following roots succeeded on calcareous ground: Vine 41B (resisted phylloxera satisfactorily), Berlandieri, Riparia-Berlandieri, Rupestris-Berlandieri, and Riparia-Monticola, and Rupestris-Monticola. On less calcareous grounds the Rupestris-Berlandieri was satisfactory, while in clayey soils the Rupestris du Lot succeeded. Thus, in the space of six years patient experiment had determined once and for all the species of vine suitable for the varying districts. Considering that at least four years had to elapse before any reliable conclusion could be formed as to whether a given species flourished or not on a given soil, the result was remarkable and reflects the highest credit on those who undertook this interesting work of rehabilitation and is a real tribute to their zeal, skill, and perspicacity. A detailed study of the soils of the various districts has been systematically carried out and in this way a classification of the soils was obtained and the suitability of various American vines thus determined. In soil containing 15 per cent. of chalk or less the Riparia flourished; in soil containing between 15 and 25 per cent. the Rupestris flourished; in soil containing between 25 and 35 per cent. the American-Berlandieri flourished; and in soil containing over 35 per cent. of chalk the Berlandieri hybrids succeed. The vinegrowers were invited to bring samples of soil to the Station Viticole de Cognac for analysis, which was done gratis, and at the same time instructions were freely given as to the vine suitable for the district. The work of this excellent institution is being continued with very satisfactory results, a system of preventive medicine, so to speak, as applied to the treatment of vines being under continuous study.

Nothing but good came of this excellent movement. Farmers flocked to the station for instruction and went their way with a glad heart and for the first time they settled down to the work of restoration with a feeling amounting to conviction that success would attend their efforts. And so it proved to be. The valley of the Charente on all sides has now assumed its old flourishing condition; evidence of re-plantation meets the eye in all directions. Our Commissioner saw the thrice pleasing prospect of living and fruit-yielding vines now occupying what but a few years ago were ugly scars left by disease. Healthy-looking vines which have already given abundant harvests may be seen everywhere. The pride with which this is referred to by those who took the work of rehabilitation in hand and who fortunately attacked the problem in a really scientific spirit may well be imagined. It had been a long struggle, but the victory was complete. Naturally the news of success spread and the experts at the Station Viticole de Cognac, now under the direction of M. J. M. Guillon, were equal to the extra work thrown upon them; instructions were supplied in all the districts, specimens of the right plant were selected for the farmers, and demonstrations were given in regard to the planting and nurturing of the new vine. At the time of our Commissioner's visit to the station nearly 2000 varieties of vines were planted in an experimental plot there. By these admirably, as it proved, directed efforts, by applying the principles taught by a well-conducted and laborious research, and by spreading a knowledge of these principles

FIG. 3.

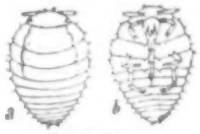
The Port of Cognac. (From a photograph by Ch. Collas et Cie., Cognac.)

amongst the sons of the soil absolute famine in the celebrated Charente districts has been averted and instead abundance and plenty reign and prosperity bids fair to reach a degree never realised before. In 1900 the harvest was described as "magnificent."

THE EFFECT OF THE PHYLLOXERA ON THE OUTPUT OF COGNAC BRANDY.

The first effect of the source of Cognac brandy being cut off by disease was very naturally an increase in the price of the famous Charente product. The future was most uncertain and stocks had to be jealously guarded, although immense reserves existed in the *chais* (warehouses) of the great brandy houses. The inevitable result of raising the price of genuine Cognac brandy was to set the minds of the unscrupulous to work to devise a false brandy, a blend of spirit from the cheapest source (grain and beet chiefly), which could be so fabricated with a *soupçon* of the genuine article as easily to deceive the uneducated palate and which should be cheap. To this day parcels of so-called cognac

FIG. 4.



The phylloxera.

are sold at 1*s.* 2*d.* per gallon in the London market. The absurdly low price is sufficient evidence of the false nature of the spirit. Again, it is possible that to some extent the merchants themselves were deceived as regards the spirit sold to them by the farmers, for at that time the finished spirit was bought, whereas now the wine itself is purchased and the brandy merchant controls the distillation himself. It is highly improbable that the respectable Cognac houses at any time knowingly had any dealings whatever with "foreign" spirit. Significant comments were made in this country on the fact that the quantity of wine produced in the Cognac district and used for distillation was quite inconsistent with the large quantity of spirit sold under the name of Cognac brandy in this country. Undoubtedly such was the case, but the blame cannot justly be attributed to the respectable merchants. Their dealings were honest throughout. The phylloxera was their misfortune and the trickster found his opportunity in this disaster and made capital out of it. In other words, the extra amount of so-called brandy shipped during the phylloxera period was the result of the imitator seizing the opportunity which the disaster to the honest traders had opened up to him; he commenced a system of producing a cheap spirit from grain and beet and called it brandy. This device to meet a demand for cheap spirit prepared in imitation of genuine cognac brandy brought discredit on the honest traders.

Even representatives of the trade in London formed the conclusion that honest brandy was a rare commodity and doubted whether genuine spirit was being produced until a visit to the arrondissement of Cognac convinced them that the honest group of merchants was still at work and more active than ever, stimulated by the success which had attended the re-plantation of the vineyards. As a matter of fact, not once during the history of the phylloxera did the stock of brandy diminish to a point anywhere near exhaustion. The price increased and the demand for genuine Cognac brandy dwindled, while an increasing business was done in substitutes for brandy. It was then that Cognac brandy lost its good name and whisky became so popular. There is ample evidence to show that there was always a good stock of genuine brandy in reserve and also that even during the phylloxera years a considerable quantity of wine was obtained for distillation.

The smallest production of wine and brandy was probably in the year 1889. The amount of genuine brandy exported considerably exceeded the quantity produced that year, so that reserve stocks were obviously being drawn upon. The same is true of the years 1879 to 1893, when the export of genuine brandy was more than the quantity produced. All this time, therefore, in order to keep up a supply of genuine Cognac brandy the shippers were compelled to draw on their reserves. The most abundant harvest in the experience of the brandy industry was the year 1875, and the stock was added to enormously while the amount of brandy exported that year was relatively small. It may be noted that it was during 1875 that the phylloxera began to make serious progress, until in 1877 the devastation was alarming. Still, wine was produced but gradually the proportion of wine distilled diminished.

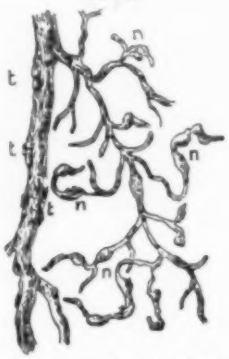
The yield of wine remained at a low ebb until the uphill task of re-planting the vineyards was well in hand and in 1896 good progress had been made so that excellent vintages were steadily being realised. The re-plantation of the vineyards saved the situation and restored the district to the prosperous state. The year 1900 in particular yielded an abundant harvest.

THE DISTILLATION OF WINE IN THE CHARENTE.

As a means of separating volatile constituents from less volatile or fixed constituents the process of distillation was known to the ancients. Aristotle referred to the purification of water by distillation. The separation of alcohol from wine appears to be indicated first in literature in the twelfth century, while the preparation of eau de vie from wines was apparently known in the Charente district in the fifteenth century, the superior character of the eau de vie produced in the Champagne district being remarked. The beginning of the industry on any scale was towards the end of the eighteenth century, and statistics giving the production of Cognac brandy in 1775 (*nombre de Tiercons expédiés*) are forthcoming. The representatives of the leading houses in Cognac at the present time are in many instances direct descendants of the founders of the industry, some of whom claim "Maison fondée en 1643" and others in 1755.

A typical "*ancienne distillerie Charentaise*" is shown in Fig. 6. The heads or "chapiteaux" of a pair of stills are shown emerging from a brickwork bed. The fire is situated beneath the whole arrangement, resembling a washhouse copper, the top of the boiler or still terminating in a "head" which prevents any frothing going over to the condenser. A tube at the side of the "head" conveys the vapour into the condenser which consists of a coil of piping or worm or serpentine immersed in cold water, terminating at a spout

FIG. 5.



Roots of vine attacked by phylloxera.

below. A tube is seen beneath the spout for catching the distillate or alcohol. The fuel in the early days of distillation was wood.

At the present day the distillation is carried out in much the same manner, although the construction of the alembic or still is modified in a number of ways according to the fancy of the distiller. Thus in some stills the hot vapour travels through a chamber containing wine before reaching the cooler. The advantage (if any) of this arrangement appears to be chiefly an economic one. The wine is heated by the vapour from the still and is thus brought towards its boiling-point, at which stage it may be allowed to run into the still without reducing the temperature of the contents. Some state that the method gives an improved flavour to the brandy. A typical modern brandy still is shown in Fig. 7, which needs hardly any explanation. The boiler, or "*la cucurbite*," is built in, so to speak, a brick box or simply a furnace, the doors of which are shown in the

front. The fire is fed through these doors with block fuel in some instances and in others with wood. A partial condensation takes place in the hollow bulb or head of the still which serves to carry back froth or particles of liquid carried up by the ebullition. The head of the still then takes the form of a pipe which turns over in the direction of the condenser. The pipe enters through the wall of the condenser where it is joined to the serpentine or worm, terminating at a spout below. The serpentine is surrounded with a constant stream of cold water. Just before the spirit flows into the cask it passes through a small deep vessel from which it overflows, the object of this intercepting vessel being to enable the distiller to place a hydrometer therein in order to control the alcoholic strength of the liquid as it passes to the receiving cask.

It may be assumed for the sake of illustration that 15 hectolitres (300 gallons) of wine are about to be distilled. Each still would take about five hectolitres, so that three stills would deal with 15 hectolitres. The stills are charged with their complement of wine and the fire is started. The wine is placed in the still in a muddy condition—that is to say, it is distilled always with the lees. It is interesting to note in connexion with this fact that the lees of course contain chiefly the acid salts (tartrates) of the grape which doubtless act upon alcohol thus encouraging the formation of ethers. The wine is generally white, but in some districts it is of a pinkish tinge. The grapes are small and white. The wine is sour and harsh to taste and not fit to drink. The harshest kinds of wine produce, it is stated, the best brandy, the wines of the Grande Champagne being first in this respect. This fact raises another interesting point in connexion with the characteristics of good brandy. Wine that is soft and palatable yields a fat, oily spirit with no delicacy or "finesse." We append the analysis of two samples of wine of the 1901 vintage, taken by our Commissioner from the barrel just previously to being consigned to the still. As illustrating the relative value of the wines of the districts shown in the map (Fig. 1) we append the prices per hogshead of wine which were obtained for the distillation of 1901: Grande Champagne, 45 francs; Petite Champagne, 40 francs; Borderies, 35 francs; Fins Bois, 32 francs; Bois Ordinaires, 30 francs; and other inferior districts, 20 francs. No. 1 was from Juillac-le-Coq in the Grande Champagne district and No. 2 from Archiac in the Petite Champagne district.

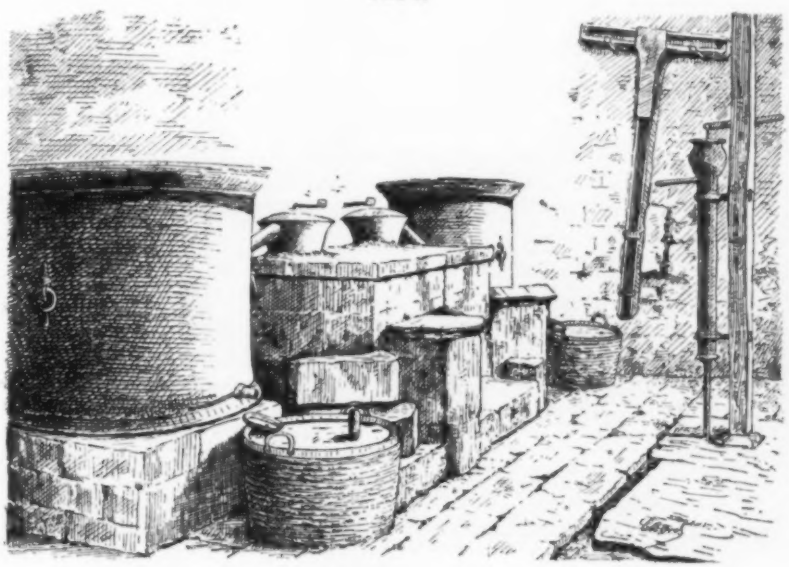
WINE NO. 1.—JUILLAC-LE-COQ, GRANDE CHAMPAGNE.

	Per cent.
Absolute alcohol by weight	5·87
,, ,, ,, volume	7·32
Proof spirit	12·84
Extractives	1·59
Sugar	0·16
Volatile acids reckoned as acetic acid	0·18
Fixed acid reckoned as tartaric acid	0·51
Volatile ethers expressed as ethyl acetate	0·035
Aldehyde	Trace.
Higher alcohols	0·003

WINE NO. 2.—ARCHIAC, PETITE CHAMPAGNE.

	Per cent.
Absolute alcohol by weight	6·43
,, ,, ,, volume	8·01
Proof spirit	14·04
Extractives	1·50
Sugar	0·14
Volatile acids reckoned as acetic acid	0·16
Fixed acid reckoned as tartaric acid	0·54
Volatile ethers expressed as ethyl acetate	0·022
Aldehyde	Trace.
Higher alcohols	0·003

FIG. 6.



An old Charente still.

Both wines were examined without regard to the deposit, which was considerable, consisting of lime salts, tartar, &c. As will be seen, the wines present an excess of acid, while the alcoholic strength is low. The harvest of 1901, though abundant, yielded "thin" wines. It should be pointed out that the wines of a given vintage throughout the entire district average much the same alcoholic strength, and as the distiller now, as a rule, buys wine and not spirit it is impossible that "foreign" spirit can be foisted upon him. He knows what strength of alcohol the normal wine should show. Moreover, he possesses a knowledge of the district in which the wine was produced. It is wine therefore of the composition just shown which is committed to the brandy still.

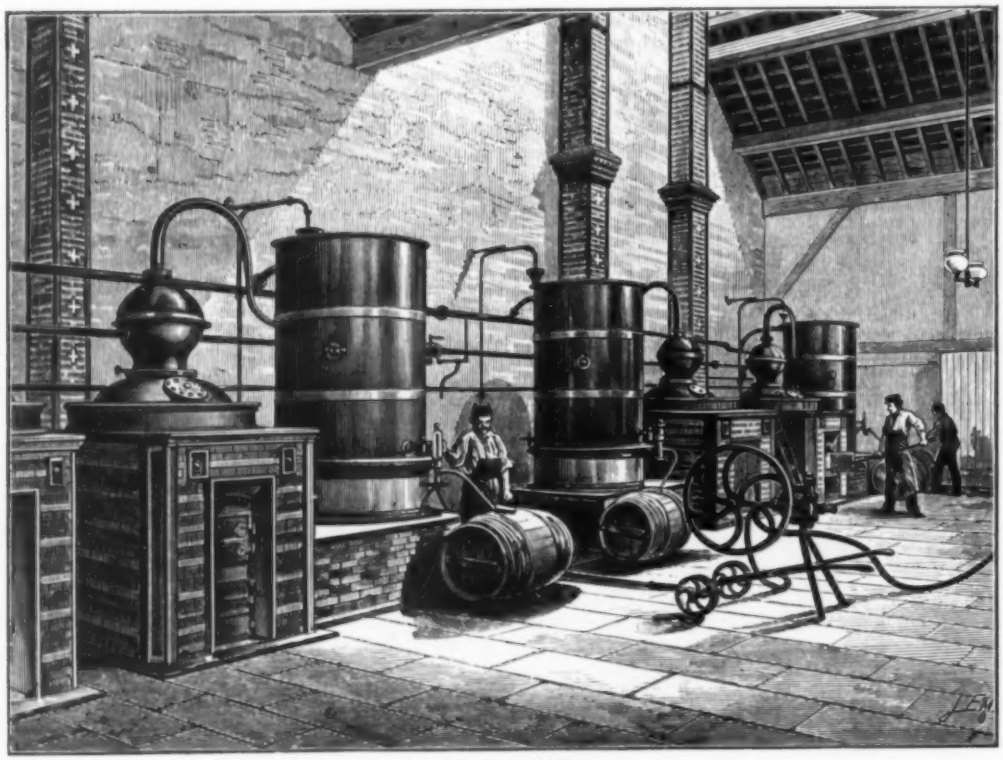
Distillation established, a somewhat evil-smelling distillate at first comes over, which contains the more volatile constituents of the wine, the ethers, and the aldehydes, and certain aromatic bodies. The first runnings are technically known as "tête de brouillis" and generally show an average

alcoholic strength of 43 per cent. by volume of absolute alcohol. An analysis of the first runnings or "tête de brouillis" is given in Table I., column 1. As might be anticipated, they show a wealth of volatile acids, aldehyde, and ether. The "tête de brouillis" or head of the distillation of wine is set aside and ultimately sent back to a fresh batch of wine in the still. Next follows a distillate or "running" of a much more pleasing character, technically known as the "cœur de brouillis," or literally the heart of the distillation. This shows an average strength of 30 per cent. of alcohol. In Table I., columns 2, 3, and 4, are analyses of these specimens of the product of the still at this stage. The "cœur de brouillis" is reserved for a second distillation known as "la bonne chauffe," which we will describe presently. Finally, a third fraction, "queue de brouillis," or "tailings," of an alcoholic strength varying between 12 and 2 per cent. by volume, comes over, and the distillation of the wine is at an end—the wine is spent. The residue in the still is submitted to a process by which ultimately tartaric acid is recovered from it. The tailings with the first runnings are subsequently put back to a fresh batch of wine in the still. An analysis of the tailings of wine distillation is given in column 5 of Table I. It will be seen that its alcoholic strength is low. The first distillation of wine amounts therefore to what would be called in chemistry a fractionating process.

The wine is distilled and three fractions are obtained: the first and third are sent back to fresh wine in the still and the middle fraction, the "cœur," or heart, of the distillation, is reserved for re-distillation. In working three stills as we have supposed three middle fractions will have been obtained which are put together, making sufficient for a re-distillation. Fractionating is again performed and again three fractions are obtained. The first, technically known as "tête d'eau de vie," is rejected and put aside for returning to a fresh batch of wine; the second, technically known as "cœur d'eau de vie," is brandy (over 70 per cent. strength); and the third fraction, or tailings of the middle fraction of the brouillis, known as seconds, is put aside and ultimately returned to a fresh charge of wine. Analyses made by our Commissioner of all these distillates will be found in Table I. Column 6 is the "tête d'eau de vie" and column 7 is a similar specimen, while column 8 is the "cœur d'eau de vie" or middle fraction which goes to make brandy, and columns 9, 10, and 11 are the "tailings" or third produce or fraction known as seconds.

In short, there are two distillations; first, the wine is distilled. The middle fraction obtained in this process is re-distilled and the middle fraction of this distillation is brandy. The two distillations may be thus graphically represented.

FIG. 7.



A typical modern distillery.

FIRST DISTILLATION.

WINE.

Tête de brouillis (sent back to fresh wine) (first fraction).	Cœur de brouillis (middle fraction).	Queue de brouillis (sent back to fresh wine) (third fraction or tailings).

SECOND DISTILLATION.

CŒUR DE BROUILLIS.

Tête d'eau de vie (sent back to fresh wine).	Cœur de distillation—i.e., brandy.	Queue or secondes (sent back to fresh wine, but sometimes used for making brandy of ordinary quality).

When the process of distillation is grasped special interest attaches to Table I. in which our analyses of the various distillates representing the different stages of brandy production are given. We are able to trace the *rationale* of the method of the Cognac distiller. We are able to observe, for example, that the first produce of the distillation of wine (Table I., column 1) contains the volatile crudities of wine, is very rich in ethers and aldehydes—it is, in fact, a very powerful liquid, highly stimulating, but with bad physiological effects. Again, the "cœur de brouillis" (Table I., columns 2, 3, and 4), the middle of the distillation of wine, approaches more nearly the chemical composition of finished brandy. It is smoother and less harsh to the palate and is less stimulating and toxic than the "tête." The re-distillation of this "cœur de brouillis" refines it further, for the heart of the heart, so to speak, is thus gained, the first and the last runnings being rejected. The tailings throughout, columns 5, 9, 10, and 11 in Table I., represent a comparatively feeble alcoholic strength and, as might be anticipated, contain a greater proportion of furfural but little palate and nose alone in regard to the character of the distilled spirit, and his judgment is easily, though not entirely, capable of an explanation from a chemical standpoint. Thus, when the distiller judges a spirit to be "fat," "oily," with great fragrance and "flower," the chemist finds a goodly proportion, relatively speaking, of higher alcohols and ethers. The spirit is next stored in casks to undergo the process of maturation which age alone can effect.

The changes undergone by age will be discussed in the section dealing with the composition of brandy. After some years the brandy is blended and reduced in strength and placed in huge vats, from which brandy for export is drawn, the vats being made up as more brandy matures. Some idea of the capacity of the vats may be gathered from Fig. 8. Brandy gains some amount of colour from the cask, and the effect of very long storage is to give a decided brown colour to the spirit. It is, however, an open secret that brandy is artificially coloured with caramel or burnt sugar for the purpose of the market, so that colour is no criterion of age. The use of caramel is the only addition to Cognac brandy, coupled with the addition of distilled water to reduce its

TABLE I.—THE ANALYSES OF VARIOUS DISTILLATES IN THE EARLY STAGES OF BRANDY PRODUCTION.

	1. Distillate	2. Distillate	3. Distillate	4. Distillate	5. Distillate	6. Distillate	7. Distillate	8. Distillate	9. Distillate	10. Distillate	11. Distillate
Alcohol per litre by weight	382·20	304·40	188·50	298·70	40·00	696·30	660·00	679·60	236·20	387·80	228·50
" " " volume	454·10	367·00	231·00	360·40	50·00	765·70	723·80	750·80	287·70	460·20	278·60
Equal to proof spirit per cent.	79·57	64·32	40·43	63·17	8·77	134·19	126·85	131·58	50·41	80·64	48·82
Extract per litre	*Nil.*	0·06	0·20	*Nil.*	0·20	*Nil.*	0·20	0·10	0·20	*Nil.*	0·10
Acidity (calculated as acetic acid)	79·80	41·76	41·76	36·00	60·00	42·00	31·32	18·00	36·00	38·28	45·00
Aldehydes (as ethylic aldehyde)	20·00	0·50	0·40	1·87	Trace.	33·32	4·00	0·50	Trace.	0·50	0·30
Furfural	0·60	0·83	0·67	0·37	*Nil.*	0·25	4·16	0·66	1·25	3·03	2·08
Alcohol in ethers (not in total)	327·06	59·80	33·20	23·40	21·62	345·40	130·60	21·16	45·03	68·50	37·20
Ethers (expressed as ethyl acetate)	625·68	114·00	61·60	44·77	41·36	601·20	249·00	40·48	86·15	131·00	71·20
Higher alcohols	152·00	56·66	27·00	50·00	31·20	50·00	96·60	30·00	20·00	43·33	10·50
Total per 100 litres of brandy expressed in grammes	878·08	213·75	131·43	133·01	132·56	726·72	385·08	89·64	143·40	216·14	129·08
Acids (acetic acid)	175·71	113·87	180·77	99·86	120·00	55·39	43·25	23·95	125·10	83·14	161·50
Aldehydes	44·04	1·36	1·73	5·18	*Nil.*	43·94	5·52	0·66	*Nil.*	1·08	1·07
Furfural	1·32	2·27	2·98	1·02	*Nil.*	0·32	5·75	0·87	4·34	6·58	2·47
Ethers (ethyl acetate)	1377·75	310·53	266·66	124·19	82·72	792·98	343·86	53·87	299·37	284·53	255·53
Higher alcohols	334·70	154·34	116·88	138·70	62·40	65·95	133·40	39·93	69·50	94·11	37·68
Total in 100 litres of absolute alcohol (the "co-efficient d'impuretés")...	1933·52	582·37	568·92	368·95	285·12	958·58	531·78	119·28	498·31	469·44	458·25

aldehyde. The first runnings, columns 6 and 7, Table I., of the second distillation, the middle fraction of which is brandy, show again a rich proportion of ethers, but the higher alcohols are diminished compared with the first runnings from the wine. In the specimen of the first runnings in column 7 a somewhat large proportion of furfural is shown. Column 8 gives the analyses of the ultimate product of distillation so far as brandy production is concerned. It is young, raw brandy, with a strength of 75 per cent. by volume of alcohol. The highest amount of higher alcohols (those of the amylic and isobutylic series) occurs in the first runnings from wine (column 1). It will be noticed, however, that first runnings and tailings are constantly being returned to a fresh batch of wine in the still. There is, therefore, a continual circulation of ethers and higher alcohols being kept up, fresh ethers are developed, and existent ethers and alcohols are doubtless modified.

It is in this way that the distiller secures tone in the ultimate distillate or brandy, or, as he puts it, obtains the soul and substance of the wine. The distiller is guided by strength, that is recognised as permissible. This addition of burnt sugar to brandies of the "star" type will be evident when the series of analyses which follow, embodying vintage brandies and the ordinary genuine Cognac brandies of commerce, are compared.

THE EFFECTS OF AGE UPON THE COMPOSITION OF BRANDY.

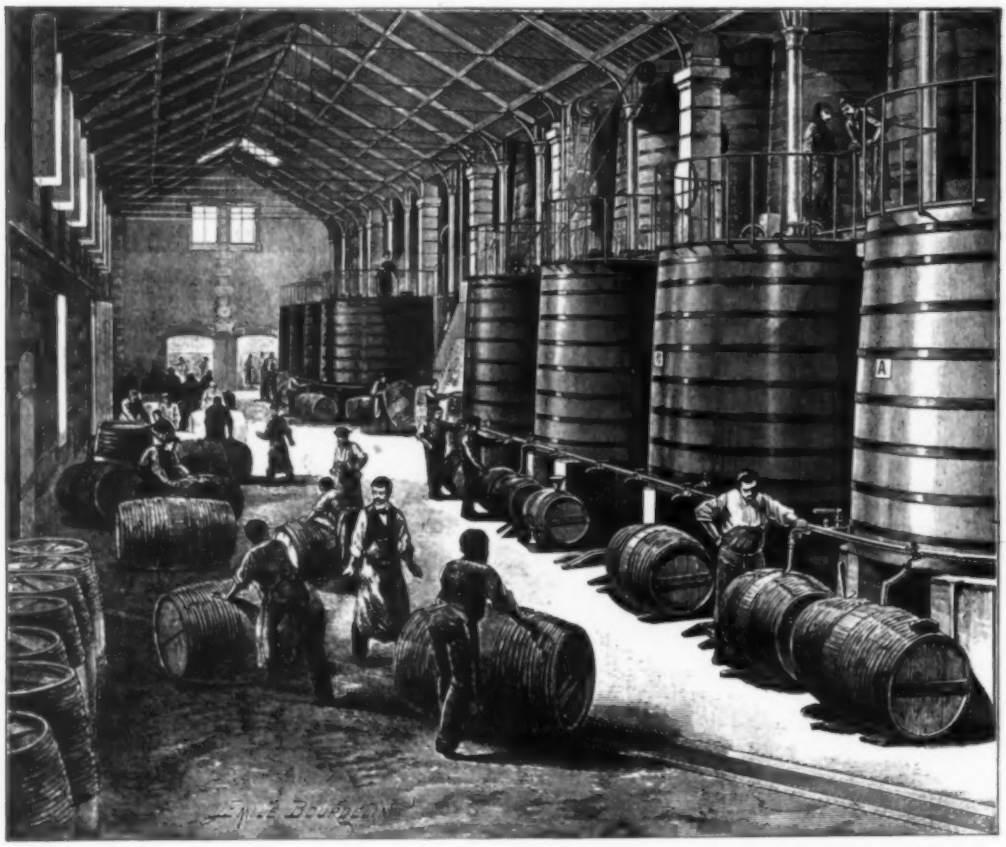
The differences as regards chemical composition which will be seen to exist between old and new brandy are not so much in kind as in degree. One effect of age upon the composition of brandy which can easily be traced is that of oxidation, a small depreciation of alcohol occurring in favour of aldehydes and acetic acid. To some extent the age of a genuine brandy can be estimated from the relation of the amounts of aldehyde and acetic acid it contains to the total quantity of secondary products. French chemists calculate a "co-efficient of oxidation" which in young brandies averages about 10 units, while in old brandies it amounts to 30 units and upwards. Furfural gradually disappears in old

brandy, probably also by oxidation. Another effect of storage upon brandy is loss by evaporation. This loss is chiefly alcohol; there is a corresponding increase in ethers, in higher alcohols, and what may be called "vinosity" develops, coupled with "finesse" and style. This development, encouraged by concentration of the more subtle constituents of the volatile products of wine, may be ascribed to new associations being formed amongst them. The ethers perhaps enter into a group which appeals to the accomplished and delicate palate, and similarly the higher alcohols probably enter into manifold combinations which further conspire to produce an elegant "liqueur." The nature of these changes is, no doubt, complex and we know little about them, albeit they are so vital to the style and quality of eau de vie.

The peculiar pleasing characteristics of genuine old Cognac brandy must be referred, not to alcohol at all, but to what the French call the "impuretés" of brandy, that is to say, to the secondary products of distillation. And it is the secondary products of brandy which distinguish it more or less sharply from all other spirits. Besides alcohol the following bodies have been recognised in brandy and in some instances the actual amounts have been determined. Those substances marked with an asterisk are generally determined in the analysis of spirits made in the municipal laboratory in Paris as throwing light upon its nature and origin.

Propylic alcohol.
* Butylic ,,
Amylic ,,
Hexylic ,,
Heptylic ,,
Propyl propionate and butyrate.
Butyl propionate and butyrate.
Amyl propionate and butyrate.
* Acetic aldehyde propionate and butyrate.
* Acetic ether.
Propionic ,,
Acetal ,,
Caproic ,,
Heptylic ether.
Carpylic ,,
Pelargonic ,,
Capric ,,
Lauric ,,
Myristic ,,
* Acetic acid.
Propionic ,,
Butyric ,,
Œnanthic ,,
Glycerine.
* Furfural.
Butylglycol.
Bases, animes.
* Extractives.

FIG. 8.



A vat-house.

Our Commissioner deemed it of interest during his visit to Cognac to obtain if possible samples of brandy representing vintages of relatively remote periods down to the present. The leading merchants in Cognac readily assented to this suggestion and allowed him to take samples whenever and wherever he chose. The samples were taken personally from the "wood" and placed in bottles and sealed and sent to

TABLE II.—THE ANALYSES OF VINTAGE BRANDIES (FIRST SERIES).

—	Bois (1858).	Grande Champagne (1875).	Bois (1888).	Bois (1892).	Grande Champagne (1893).	Bois (1895).	Petite Champagne (1896).	Borderies (1900).	Grande Champagne (1900).	Bois (1901).
Alcohol per litre by weight	450·90	446·40	540·00	580·50	610·80	580·50	563·20	602·60	615·00	602·60
,, ,, ,, volume	527·70	522·90	618·40	658·10	687·30	658·10	641·40	679·30	691·10	679·30
Equal to proof spirit per cent.	92·48	91·64	108·36	112·41	120·42	115·33	112·41	119·05	121·11	119·05
Extract per litre	3·20	2·20	1·50	0·80	0·60	0·50	0·90	0·30	0·10	0·30
Acidity (calculated as acetic acid)	115·20	86·40	68·40	54·00	47·40	43·20	46·80	29·28	25·80	32·94
Aldehydes (as ethylic aldehyde)	12·50	11·10	11·10	7·14	5·00	6·25	6·25	5·00	5·00	3·00
Furfural	0·50	0·50	1·50	1·36	1·36	1·50	1·50	1·11	1·61	3·00
Alcohol in ethers (not in total)...	49·20	39·50	38·70	52·40	58·80	33·10	41·80	30·80	58·10	76·30
Ethers (expressed as ethyl acetate)... ...	94·10	75·60	77·40	100·30	112·00	63·00	80·00	58·90	107·30	146·00
Higher alcohols	144·00	91·00	91·00	168·00	85·00	112·00	104·00	112·00	96·00	111·10
Total per 100 litres of brandy expressed in grammes	366·30	264·60	249·40	330·80	250·76	225·95	238·55	206·29	235·61	296·04
Acids (acetic acid)	218·30	165·19	110·60	82·02	68·96	65·62	72·96	43·10	36·45	48·52
Aldehydes	23·68	21·22	17·94	10·84	7·27	9·49	9·74	7·36	7·06	4·41
Furfural	0·94	0·95	2·42	2·06	1·97	2·27	2·33	1·63	2·13	4·40
Ethers (ethyl acetate)	178·31	144·64	125·15	152·35	162·98	95·69	124·72	86·70	151·61	215·05
Higher alcohols	272·8	173·92	147·14	256·19	124·16	170·12	162·13	164·86	135·64	163·66
Total in 100 litres of absolute alcohol (the "coefficient d'impuretés")... ...	694·11	506·82	403·25	502·46	365·32	343·19	371·88	303·65	332·89	436·04

TABLE III.—THE ANALYSES OF VINTAGE BRANDIES (SECOND SERIES).

—	Grande Champagne (1811).	Petite Champagne (1870).	Bons Bois (1874).	Grande Champagne (1877).	Bois (1888).	Bois (1894).	Bois (1895).	Petite Champagne (1900).	Grande Champagne (1900).	Grande Champagne (1901).
Alcohol per litre by weight	450·90	376·70	437·10	500·90	563·20	564·10	567·70	632·60	623·60	606·70
,, ,, ,, volume	527·70	447·90	513·20	589·20	641·40	632·40	654·80	707·70	699·20	683·30
Equal to proof spirit per cent. ...	92·48	78·50	89·59	101·51	112·41	110·84	113·18	124·02	122·53	119·74
Extract per litre	5·30	3·60	2·70	1·50	0·60	1·00	1·10	0·40	0·48	0·10
Acidity (calculated as acetic acid)	158·40	118·80	104·40	86·40	54·00	52·20	45·24	27·84	27·84	41·76
Aldehydes (as ethylic aldehyde) ...	25·00	16·66	20·00	50·00	35·71	7·11	8·33	3·51	7·11	7·11
Furfural	0·41	0·80	0·80	0·80	0·80	1·01	1·01	1·51	1·50	3·03
Alcohol in ethers (not in total) ...	58·80	32·20	32·20	32·80	31·20	42·70	38·10	28·90	35·80	77·70
Ethers (expressed as ethyl acetate)	102·00	61·60	61·60	64·20	59·80	81·84	73·04	55·44	68·64	148·00
Higher alcohols	196·00	153·30	100·00	106·66	133·32	93·32	93·32	100·00	99·99	113·32
Total per 100 litres of brandy expressed in grammes	481·81	351·16	296·80	308·06	283·63	235·48	220·94	188·30	205·08	313·22
Acids (acetic acid)	300·16	265·16	203·37	146·53	84·18	82·52	70·21	39·36	39·81	61·59
Aldehydes	47·37	37·18	38·96	84·80	55·67	11·24	12·92	4·96	10·16	10·48
Furfural	0·80	1·80	1·55	1·35	1·24	1·59	1·56	2·13	2·16	4·44
Ethers (ethyl acetate)	193·29	137·49	119·99	108·88	93·22	129·38	113·35	78·39	98·15	218·34
Higher alcohols	371·52	342·16	194·80	180·89	207·84	147·53	144·83	141·40	142·98	167·14
Total in 100 litres of absolute alcohol (the "coefficient d'impuretés")	913·14	783·79	558·67	522·45	442·15	372·26	342·87	266·24	293·26	461·99

THE LANCET Laboratory for analysis. The samples obtained dated from 1811 and the results of their analyses are given in Tables II. and III. The modifications which occur in the chemical composition of genuine Cognac brandy through age are well illustrated in these analyses and serve to bear out what we have already stated on the subject. The methods of analysis employed were, except in regard to a few technical variations and manipulative details, substantially the same as those adopted in the municipal laboratory at Paris. For much valuable information on analytical points our Commissioner is indebted to M. Ordonneau of Cognac, whose work on the composition of brandy is classic and authoritative. It will be seen that some of the samples coincide with the critical years of the phylloxera period, when some assumed that no genuine Cognac brandy was produced.

Our Commissioner in taking these samples had ample opportunity of observing the stocks of brandy in reserve, amongst them being the produce of the vineyards during those years when utter devastation was threatening. In fact, he made a point of securing samples representing the phylloxera period. Samples of the years 1874, 1875, 1877, and 1888 (two samples) come in this category. As a matter of fact, as has already been shown, there was never a period in the history of phylloxera of absolute famine. Sufficient grapes were always obtained to yield a vintage and not in any single year was there no vintage. The oldest sample examined was of the vintage 1811 and the newest sample examined was last year's produce. With increasing age it will be noticed that there is a gradual elimination of furfural which is probably the most objectionable constituent of brandy. It gives place probably to a new and harmless product by oxidation. Similarly the aldehydes and the degree of acidity increase with age for the same reason. The alcoholic strength is considerably diminished in old brandy mainly through loss by evaporation, while the proportion of higher alcohols increases, although the relation to ethers is preserved.

TABLE IV.—*The Analyses of Typical Brandies in the Market (First Series).*

—	1-star landed 1902.	2-star landed 1902.	3-star landed 1902.	1-star purchased in open market.	2-star purchased in open market.	3-star purchased in open market.	Special quality brandy.
Alcohol per litre by weight	413·00	413·00	413·00	413·00	418·00	418·00	398·00
Alcohol per litre by volume	487·50	487·50	487·50	487·50	492·90	492·90	471·30
Equal to proof spirit per cent.	85·43	85·43	85·43	85·43	86·37	86·37	82·59
Extract per litre	6·20	6·80	6·90	6·20	6·80	7·10	16·60
Acidity (calculated as acetic acid)	32·40	32·40	36·00	32·40	32·40	36·00	72·00
Aldehydes (as ethylic aldehyde)	6·00	6·00	6·00	6·00	6·00	7·00	20·00
Furfural	1·20	1·20	1·20	1·30	1·30	1·30	0·80
Alcohol in ethers (not in total)	31·20	34·50	30·80	28·90	26·60	27·60	45·00
Ethers (expressed as ethyl acetate)	59·80	66·00	58·90	55·40	51·00	52·80	86·20
Higher alcohols	48·00	80·00	68·00	53·33	53·33	53·33	122·00
Total per 100 litres of brandy expressed in grammes	147·40	185·60	170·10	148·43	144·03	150·43	301·00
Acids (acetic acid)	66·45	66·45	73·83	66·45	65·70	73·01	152·71
Aldehydes	12·30	12·30	12·30	12·30	12·16	14·19	42·42
Furfural	2·46	2·46	2·46	2·46	2·63	2·63	1·69
Ethers (ethyl acetate)	122·64	135·36	120·80	120·80	103·43	107·07	182·83
Higher alcohols	98·44	164·08	139·46	139·46	108·45	108·15	258·76
Total in 100 litres of absolute alcohol (the coefficient d'impuretés)	302·29	380·65	348·85	341·47	282·37	305·05	638·41

TABLE V.—*The Analyses of Typical Brandies in the Market (Second Series).*

—	1-star landed 1902.	2-star landed 1902.	3-star landed 1902.	1-star purchased in open market.	2-star purchased in open market.	3-star purchased in open market.	Special quality brandy.
Alcohol per litre by weight	422·90	427·60	427·60	427·60	422·90	413·00	446·40
Alcohol per litre by volume	498·10	503·10	503·10	503·10	498·10	487·50	522·90
Equal to proof spirit per cent.	87·29	88·18	88·18	88·18	87·29	85·43	91·64
Extract per litre	5·90	6·50	6·70	6·00	6·40	6·60	11·00
Acidity (calculated as acetic acid)	32·40	32·40	43·20	28·80	32·40	39·60	111·00
Aldehydes (as ethylic aldehyde)	5·00	5·00	6·00	6·00	6·00	7·00	10·00
Furfural	1·20	1·10	1·00	1·20	0·80	1·00	0·80
Alcohol in ethers (not in total)	25·30	22·90	23·40	23·00	22·00	23·90	41·95
Ethers (expressed as ethyl acetate)	48·40	43·10	44·80	44·00	42·20	45·70	80·25
Higher alcohols	40·00	53·33	70·00	46·66	60·00	40·00	136·00
Total per 100 litres of brandy expressed in grammes	127·00	134·93	165·00	126·66	141·40	133·30	338·05
Acids (acetic acid)	65·02	64·37	85·82	56·72	65·02	81·21	212·23
Aldehydes	10·03	9·93	11·92	11·92	12·04	14·35	19·12
Furfural	2·36	2·00	1·98	2·38	1·60	2·00	1·50
Ethers (ethyl acetate)	97·13	85·63	89·01	87·42	84·66	93·97	153·43
Higher alcohol	80·28	105·96	139·09	92·71	120·42	82·04	260·03
Total in 100 litres of absolute alcohol (the coefficient d'impuretés)	254·82	267·89	327·83	251·15	283·77	273·57	646·31

The development of ethers in old brandy arises probably from alcohol reacting upon the oxidation products. The total quantity of secondary products in genuine brandy seldom falls below 300 milligrammes per 100 litres of absolute alcohol. The products of oxidation gradually increase with age, as will be seen from Tables II. and III. Ordinary genuine Cognac brandy upon the market (of the one to three star description) gives an average coefficient of oxidation of 26 units, which would place the age of such spirit somewhere between ten and five years. It may, therefore, be concluded that the coefficient of secondary products—i.e., products of distillation other than alcohol—increases considerably with age. Amongst these the aldehydes and acids, being direct oxidation products, are largely increased. The increase of higher alcohols and ethers is due chiefly to concentration and does not progress at the same rate as the aldehydes and acids. Therefore genuine brandy may be clearly distinguished from other spirits by the proportion of secondary products it contains and by the relationship of these products to each other, and further, the total quantity of "impurities" increases directly with the age of the spirit.

A chemical analysis carefully conducted on the lines indicated is therefore calculated not only to raise a fair presumption as to the genuineness of brandy but as to its age also, the genuineness having been established. We will proceed to carry this argument into practice and to that end will now deal with the composition of the first brandies upon the market and then of spirits other than brandy and with spurious brandies more or less made up of these spirits as revealed by the same methods of chemical analysis.

THE COMPOSITION OF BRANDIES UPON THE MARKET.

Being thus able to present analytical data on the composition of normal brandies (as a matter of fact, vintage brandies), the honest nature of which cannot be questioned, we are provided with a series of standards, so to speak,

whereby brandy sold in the open market may be adjudged. For this purpose we have procured bottles of brandy chiefly bearing the brand of one, two, or three stars. At the same time we were able to procure samples at the London Docks immediately they were landed, which, therefore, represent actually the brandy that is being put upon the market at the present time. The results are embodied in Tables IV. and V.

The remarkable uniformity of composition shown by the samples coming under the same designation is very striking. Thus the coefficient of secondary products is practically constant throughout. Generally speaking, it is higher in the case of the three stars brand, and it may hence be concluded that such are superior to the one or two stars brands. They contain, in other words, a greater proportion of old brandy. The samples taken at the docks exhibit no differential features. The constancy of composition of these samples is, in fact, a remarkable, as it is a satisfactory, feature, and we may refer with some detail to the results.

The maximum amount of secondary products contained in 100 litres of the alcohol in the brandies was 380·65 grammes and the minimum was 251·15 grammes (several of the samples gave identical totals); the maximum acidity was 85·83 grammes, in terms of acetic acid, and the minimum was 64·37 grammes (seven of the 12 samples gave practically the same figures); the maximum aldehyde was 14·35 and the lowest was 9·93 grammes (the amounts of aldehyde were again identical in several cases). Furfural is a fairly constant factor throughout, the quantity varying from 2·63 to 1·60 grammes per 100 litres of alcohol which approximately represent 200 litres of brandy. The ethers again average about 100 grammes per hectolitre, and the higher alcohols come somewhere near the same figure. The alcoholic strength is constant, amounting to about 50 per cent. by volume of alcohol.

Vintage brandies, unless they are very old, contain, as a rule, upwards of 10 per cent. more alcohol than this, the strength being brought down in brandies intended for consumption by adding a suitable quantity of distilled water. On comparing the amounts of extractives in star brandies it will be observed that they invariably exceed the amounts recorded as present in vintage brandies in Tables II. and III.; some caramelised sugar, as a matter of fact, is added to this grade of brandy previously to bottling. The finest cane sugar is used for the purpose. This substance and pure distilled water are the only additions employed and not the slightest attempt is made to disguise the fact. The fact, at any rate, is readily disclosed in analysis. The amount of extractives and colouring matter found in the star samples was substantially the same throughout.

The flavour and quality of brandy bear some relation to the secondary products, and especially the ethers and higher alcohols, and it is interesting to point out that chemical analysis assigns to the star samples a practically constant composition in regard to these secondary products; in other words, in deciding upon a standard quality by the aid of the palate alone and with no other means available the skill of the taster is such that he is able to put a product upon the market which proves to be practically constant even in accordance with the demands of careful chemical analysis. The brandies of the "star" series are genuine, exhibiting a composition consistent with a certain degree of quality. The specimens marked "special quality" in these tables are, as the name would imply, superior and they are more expensive. As will be seen, chemical analysis at once indicates older and finer brandy. The sum of secondary products—ethers, aldehydes, higher alcohols—exceeds that of any single specimen of the star series. Age is again indicated in these specimens by the relatively small proportion of furfural.

It is evident that from observations based on a careful analysis some differentiation in regard to the age of genuine brandy can be made. Moreover, the two specimens of extra-quality brandy are from different merchants and exhibit a very similar composition. Here again palate and chemistry are in accord. We may next discuss the differences of chemical composition revealed by precisely the same methods of analysis between genuine brandy and grain spirit, beet spirit, rum, whisky, gin, and spurious brandy.

GENUINE BRANDY COMPARED WITH GRAIN SPIRIT, BEET SPIRIT, RUM, WHISKY, GIN, AND FICTITIOUS BRANDY.

Could distinct differences in composition be shown to exist with accuracy by chemical analysis between genuine brandy and other spirits it would obviously be possible to differentiate between them and thus to establish a means of detecting the origin and nature of a spirit and of exposing fraud. We venture to think that the results contained in Table VI. give distinct promise of placing in the hands of the analyst, apart from taste, the means of deciding this most important point. There will be found sharp differences of composition which, however, generally speaking, are in degree rather than in kind. To admit of instructive comparison an analysis

TABLE VI.—*The Analysis of Grain Spirit, Beet Spirit, Rum, Whisky, and Gin.*

—	Grain spirit.	Beet spirit.	Jamaica rum.	Scotch whisky.	Gin.	Typical 3-star brandy.
Alcohol per litre by weight ...	932·60	912·90	619·20	436·20	401·50	410·50
,, ,, volume ...	956·00	942·00	695·00	512·00	475·00	485·00
Equal to proof spirit per cent.	167·55	165·09	121·79	89·77	83·26	84·96
Extract per litre	*Nil.*	*Nil.*	6·36	1·16	0·52	6·70
Acidity (calculated as acetic acid ... ...)	2·40	4·80	122·40	33·60	19·20	37·50
Aldehydes (as ethylic aldehyde) ... ...)	0·15	10·92	15·41	14·38	4·72	6·10
Furfural	*Nil.*	*Nil.*	2·08	1·94	0·13	0·82
Alcohol in ethers (not in total)	1·84	9·20	161·00	20·24	4·60	27·88
Ethers (expressed as ethyl acetate) ... ...)	3·52	17·60	308·00	38·72	8·80	53·35
Higher alcohols	2·80	6·96	62·58	122·76	13·25	58·48
Total per 100 litres of brandy expressed in grammes ...)	8·87	40·27	510·47	211·40	46·10	156·25
Acids (acetic acid)	2·5	5·0	176·00	65·40	40·40	77·32
Aldehydes	0·1	11·5	22·10	28·00	9·90	12·60
Furfural	*Nil.*	*Nil.*	2·90	3·90	0·30	1·70
Ethers (ethyl acetate)	3·6	18·6	443·10	75·6	18·50	110·00
Higher alcohols	2·9	7·3	93·90	239·70	27·90	120·58
Total in 100 litres of absolute alcohol (the "coefficient d'impuretés") ... ...)	9·1	42·4	738·00	412·60	97·00	322·20

of 3-star brandy has been placed in the table. Grain spirit and beet spirit are distinguished sharply from genuine brandy by presenting hardly any secondary products of fermentation at all. Thus in the case of grain spirit the total amount of secondary products is only 9·1 grammes per hectolitre of absolute alcohol, while in beet spirit the total is 42·4. These results are just what might be expected, seeing that brandy is the product of distillation of a very complex fluid containing not only sugars but acids, albumins, and salts.

Genuine brandy is known by its impurities, so to speak—i.e., volatile bodies other than alcohol, secondary products upon which its special characteristics of flavour and bouquet depend. Grain and beet spirit contain no furfural or any appreciable proportion of ether or higher alcohols. The latter, however, occur in a higher quantity in beet spirit owing to the properties of beet sugar, but the proportion is insignificant compared with ordinary brandy, while extra-quality brandy contains over 35 times the amount. Aldehydes, which are a feature of good brandy, are absent in grain spirit. The ratio of the individual secondary products to each other in grain and beet spirit is altogether different from that presented in the analysis of genuine brandy. This is particularly so in regard to the ethers and higher alcohols.

Coming to rum we are at once struck with the very high proportion of ethers which it contains, which are doubtless the products of sugar acids acting upon the alcohols. But quite contrary to brandy the ethers exceed the higher alcohols in the proportion of 5 to 1. The higher alcohols and ethers in genuine brandy are nearly always present in equal proportion—any exception to this generally consisting in the higher alcohols exceeding the ethers, as will be seen from the analysis of the typical star brandy given in

Table VI. Rum is distinguished also by containing a notable amount of furfural, while the degree of acidity is decidedly high.

Next Scotch whisky, though quite different as regards flavour, resembles in some analytical particulars genuine brandy. The total secondary products are much the same, but distinct differences appear in the amount of furfural which is excessive in whisky, in the amount of ethers which as might be expected is low, while the ratio of ethers to higher alcohols is one of the former to three of the latter, a ratio never shown in genuine brandy. Whisky, in fact, as is well known, is marked by a relatively excessive proportion of alcohols of the higher series. We have, however, examined specimens of whisky which proved to contain no ethers at all. Such are grain whiskies as distinct from pure malt whiskies. The whisky given in the table was a pure malt whisky. We have no doubt that the methods of analysis as applied to brandy would when applied to various whiskies show significant differences of composition sufficiently marked to enable a discrimination to be made between genuine or all-malt whisky and blended whiskies or purely grain whisky. We hope to pursue this important subject at a future time. Lastly, gin is almost characterless as regards secondary products—in fact, it presents a composition resembling in general that of beet spirit—that is, a comparatively pure alcohol, both ethers and higher alcohols being present in quite an insignificant proportion.

PUBLIC-HOUSE AND RESTAURANT BRANDY.

So far the time at our disposal has not permitted us to make an exhaustive inquiry into the nature of the spirit sold as brandy to the public at public-houses, railway restaurants, and other places. The results, however, already gained show that the trade in spurious brandy is considerable and when we speak of brandy we must be taken to refer to spirit derived solely and wholly from wine or from the grape. There is, of course, no legal definition of brandy or, in fact, of any other spirit. The Sale of Food and Drugs Act only provides against the extreme dilution of spirits, not against substitution, and thus a public analyst reports any spirit, whether it is described as rum, gin, whisky, or brandy, as "genuine" so long as it conforms to a certain strength of alcohol. The absurdity of employing the word genuine in such a case is obvious. Thus, a given specimen of brandy taken by the inspector which contained absolutely not a drop of true brandy would be reported by the public analyst as "genuine," and so with other spirits. Indeed, if he were supplied with pure rectified spirit, no matter what was asked for, he would still report it to be "genuine" so long as it showed an alcoholic strength required by the law. The law does not protect the public from substitutes for spirits.

Is protection called for in the case of spirits? Whatever may be said of whisky, rum, and gin it certainly is, we maintain, in regard to brandy. Genuine brandy has long been recognised by the medical profession and the public as possessing certain medicinal qualities not enjoyed by other spirits. Thus, if in illness a stimulant is indicated it is generally brandy that is employed. Indeed, probably the majority of people never drink brandy unless it is for medicinal use and undoubtedly fine old brandy has been most valuable for this purpose and the phrase "eau de vie" is not altogether an unjustifiable title. To this day good brandy is regarded as *par excellence* the medicinally valuable spirit. Its reputation in this regard has been founded on experience and the composition of brandy shows important characteristics absent in whisky and other spirits upon which the medicinal value undoubtedly largely depends. This being so, when a person asks for brandy he ought to be supplied with the genuine article, a grape-derived or wine spirit, all else being regarded, in the words of the Sale of Food and Drugs Acts, as "not of the nature, quality, and substance demanded." In this sense we regard genuine brandy as a valuable drug which should be procurable in accordance with a standard.

Those who can afford to buy brandy in case or bottle and pay a reasonable price for it may to some extent protect themselves from being imposed upon or from a substitute being foisted upon them by seeing that the brandy which they buy is contained in a bottle with the labels on the front and shoulder of the bottle intact, with the name of a respectable firm on the cork, and with a capsule on the top. With well-known firms in Cognac this is a sufficient guarantee that the spirit is genuine Cognac brandy. But those who buy a shillingsworth have not this means of protection and the poor invariably seek a ready remedy in brandy, and impressed with the idea that brandy is most suitable for the purpose, though it costs more money than a similar quantity of rum, whisky, or gin would do, they ask for brandy only to be supplied in many instances with a cheap and worthless, if not positively unwholesome, substitute. It is not only that fraud is practised, but injury to health might obviously ensue. When a belladonna plaster is ordered it is required to contain not less than a certain amount of the active principle (atropine); in the case, similarly, when brandy is ordered it should contain the active principles of wine spirit.

There is undoubtedly at the present time an immense trade done in spurious brandy the outcome of the misfortune which befell the famous Charente vineyards in the late "seventies"; an unscrupulous business was initiated and the period of distress under which the honest merchant laboured for a time was turned to account against him. There was no room for factitious brandy as long as the harvests in the Charente vineyards were abundant and unaffected by disease. Grain or root spirit could be produced at a cheaper rate than spirit from the grapes because the supply of the latter was rapidly diminishing and artifice sufficed to make the product something like the genuine thing. A ready market was found which flourishes in the present day because we possess no power by law to suppress the substitution of one kind of spirit for another.

The question arises as to how far it is possible to identify the substitute or to distinguish genuine from false brandy. We believe that the methods of analysis already detailed in regard to brandy will throw considerable light upon this important aspect of the subject. In Table VII. will be found some analyses of brandies purchased at public-houses and elsewhere. For Sample 1, procured at a public-house, we were charged 3*s.* 6*d.* per bottle (this low price was at the outset suspicious). On the label was the name of a highly esteemed house in Cognac; there was no label on the shoulder, the cork was branded with the word Bass's, and the green metal capsule showed a bunch of grapes in relief. The sample proved to be a specimen of flavoured grain spirit. Sample 2 was purchased at a public-house, four and a half fluid ounces being supplied for

TABLE VII.—*The Analyses of "Brandy" Purchased at Restaurants and Public-houses.*

—	1. Public-house brandy.	2. Public-house brandy.	3. Brandy from railway restaurant.	4. Brandy from railway restaurant.
Alcohol per litre by weight	340·50	382·20	432·40	389·00
" " " volume	407·90	454·10	508·20	471·30
Equal to proof spirit per cent.	71·48	79·57	89·06	82·59
Extract per litre	7·10	14·90	7·10	6·60
Acidity (calculated as acetic acid)	32·40	68·40	36·00	43·20
Aldehydes (as ethylic aldehyde)	3·00	3·00	6·00	2·80
Furfural	0·25	0·20	0·50	0·35
Alcohol in ethers (not in total)	6·90	17·02	24·30	19·70
Ethers (expressed as ethyl acetate)	13·20	32·56	46·60	37·80
Higher alcohols	20·00	26·66	49·99	53·33
Total per 100 litres of brandy expressed in grammes	68·85	130·82	139·09	137·48
Acids (acetic acid)	79·41	150·61	70·81	91·62
Aldehydes	7·35	6·60	11·80	5·93
Furfural	0·61	0·44	0·98	0·74
Ethers (ethyl acetate)	32·35	71·69	91·66	80·17
Higher alcohols	49·02	58·70	98·33	113·11
Total in 100 litres of absolute alcohol	168·74	288·04	273·58	291·57

a shilling. It proved to be a mixture of rum and spirit. Sample 3, purchased at a railway restaurant in London, amounted to four fluid ounces, for which as much as *2s. 2d.* was charged. This proved to be genuine brandy of the star type but the price charged for it was exorbitant. Sample 4 was also obtained at a railway restaurant in London, *1s. 5d.* being charged for four and a half fluid ounces. It contained some genuine brandy, blended for the most part with characterless spirit.

The results of analysis are interesting. Sample 1 was the subject of a successful prosecution by the Cognac firm the name of which had been wrongly used. As will be seen, the chief points in the analysis distinguishing it from genuine brandy are as follows: in the first place, the alcoholic strength is low—in fact, nearly four degrees below the limit laid down in the Sale of Food and Drugs Act; next, the amount of furfural is below that found in ordinary genuine brandy; again, the ethers occur in very small proportion compared with genuine brandy and the sum of secondary products is quite inconsistent with the spirit being called brandy. Sample 2 is of peculiar interest as representing an attempt to make a false brandy approach in chemical composition the genuine article. It will be noticed that this spirit is excessively acid, contains very little furfural, and though the ethers approach the proportion found in genuine brandy yet the amount of higher alcohols is decidedly lower. On submitting this spirit to a skilled taster he was not long in pronouncing it to contain rum. This description exactly conforms to the findings of analysis—viz., an excess of acid and an excess of ethers over the higher alcohols, while the total amount of secondary products is relatively low. (Compare the analysis of rum given in Table VI.) Sample 3 was undoubtedly genuine brandy and probably of the "three star" type but the price was excessive. It will be observed that the ratio of ethers to the higher alcohols is 1 to 1, which is the case with genuine brandy. The analysis of Sample 4 indicates a fair proportion of genuine brandy mixed with "foreign" spirit.

Owing chiefly to the fact that the Sale of Food and Drugs Act controls the sale of brandy only so far as its alcoholic strength is concerned, and not at all in regard to its special nature and characteristics, the composition of genuine brandy has not been studied with any regard to detail in this country and the analyses which are made of brandy are far from complete, relating merely to alcoholic strength, acidity extractives, and occasionally ethers. Little attention has been paid to the determination of the total amount of secondary products or to their classification, owing probably to the difficulties which attend the analysis. These difficulties disappear with experience and the time is ripe, we think, when the excellent and instructive methods of analysis of the municipal laboratory of Paris should be generally adopted in this country and turned to account in encouraging the supply of genuine and wholesome spirits. That a more detailed study of the question from the chemical and analytical point of view is calculated to bring about this desirable result we are confident. A given name, we contend, should imply a specific spirit produced from a given material. Brandy should be strictly the produce of the grape, as whisky should be of malt and rum of cane sugar, and so forth. It is desirable, we think, that shippers should keep an analysis of each batch of spirit sent out and that the bottle should have a distinctive mark on the label indicating the batch. In this way an excellent system of control could be maintained.

SUMMARY.

The position may be summed up by stating at the outset that suspicion first fell upon the character of the brandy imported into this country from France soon after the year 1876 when the attacks of the phylloxera on the vineyards of the Charente district threatened the complete destruction of the vines. The output of wine and brandy was naturally restricted and this fact encouraged the manufacture of substitutes for brandy and large quantities of spirit described as brandy have been, and according to our inquiries are still, sold in this country which are not entitled to the description. According to our view it is just as dishonest to describe grain spirit and its congeners as "brandy" as it would be to call margarine "butter," especially bearing in mind the medicinal applications of brandy and its special adaptability as distinct from all other spirits for the purpose. In spite, however, of the large importations of the spurious article into this country—for it commanded a ready sale on account of its relatively low price—genuine Cognac brandy was always procurable, but there was an unwillingness to pay the higher price for the honest article. This preference on the part of the public to buy a cheap and nasty article is constantly exhibited in other directions. The respectable firms in Cognac took up a strong position and refused to resort to dishonest practices notwithstanding that a famine of grapes was fast threatening them. Much to their credit they stood by their reserve stocks of genuine brandy and, as we have shown, used them to make up any deficiency.

They were thus able to tide over the phylloxera period until in 1894 the vineyards, having been re-planted, yielded an abundant harvest and excellent vintages have since been reaped. The re-plantation of the vineyards met, in fact, with conspicuous success after a most laborious series of experiments lasting nearly 20 years and now there is abundance on all sides and in all the districts. The present prospects of the industry, thanks to the combined energy, skill, and perseverance of men of science, of commerce, and of the toilers in the vineyards, are of the most favourable kind. The production of wine, in fact, in the Charentes is now so abundant as to exceed the fullest requirements of the distiller, and the farmer having successfully passed through a period of partial famine is already being confronted with the prospects of over-production. The chances are in view of this extraordinary reversal of things within a few years that genuine Cognac brandy will be cheaper in the near future and will be thus able to compete with other spirits and to take the position which it formerly held.

We have also pointed out that the distillation of wine has passed from the hands of the grower to the merchants who have brought all the resources of modern knowledge and skill to bear upon the process. The merchant now buys wine and not spirit from the grower. There is thus an absolute control over the materials and plant concerned in the production of genuine brandy. Moreover, a very severe system of supervision is practised by the Excise. The amount of wine yielded must be carefully recorded, its strength must be declared, its whereabouts must be registered, and permits must be obtained before it can be removed from one place to another. In this way the exact amount of spirit it is possible to produce from wine is known and the Excise authorities are careful to trace all wine and to keep a sharp look-out with regard to its fate. The vintages since the re-plantation was completed are proving to yield brandies of the excellence of that produced in the pre-phylloxera period, possessing that softness and "finesse" which characterised the well-known produce of the years 1865 to 1875 inclusive.

We have shown as far as it is possible to do so from a consideration of the chemical composition of genuine brandy what is the nature of the changes produced in brandy by keeping. The harvests gained since the re-plantation of the Charente vineyards are already accumulating age, as exemplified in the amount of secondary products, including oxidation products, shown in the series of analyses which we have given of post-phylloxera vintages. We have shown that the bottled brandies bearing the name of well-known Cognac houses and purchased in the open market exhibit a composition consistent with that of a genuine brandy distilled from wine and matured. The system of exporting cases, coupled with the fact that the bottles in them bear, besides a copyright label, a shoulder label also, while the

cork is branded with the name of the firm in Cognac and sealed with a copyright capsule, insures the sale of genuine Cognac brandy.

There is no attempt, however, to control the sale of genuine brandy at places of public refreshment. This is common knowledge and our analyses of two samples purchased at public-houses prove it. One sample was a bottle the price of which was 3*s.* 6*d.* Even taking into account the fact that the sample was watered it is absurd to expect to get genuine brandy at the price.

Finally, we maintain that as brandy is so universally regarded as superior to all other spirits from a medicinal point of view some control over the sale of substitutes for brandy should be established. In the British Pharmacopœia, 1898, brandy (Spiritus vini Gallici) is defined as a spirituous liquid distilled from wine and matured by age and there is abundant reason, we venture to think, why this definition should form the basis of a standard. Thus a system of control would be possible, we have shown, if greater attention were given to the determination of the normal chemical characteristics of genuine brandy and of other spirits than has hitherto been the case. The trade in genuine brandy, which is undoubtedly reviving now that the Charente vineyards have been restored to their old prosperous and healthy condition, would then be continued under excellent auspices.

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